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Spiders (Aranei) of the 'Privolzhskaya Lesostep' Nature Reserve (Penza Area, Russia): the sector 'Kuncherovskaya Lesostep'

Пауки (Aranei) заповедника «Приволжская Лесостепь» (Пензенская область, Россия): участок «Кунчеровская лесостепь»

Nina Yu. Polchaninova
Нина Ю. Полчанинова

V.N. Karazin Kharkiv National University, Maidan Svobody, 4, Kharkiv 61077 Ukraine. E-mail: n.polchaninova@karazin.ua
Харьковский национальный университет им. В.Н. Каразина, пл. Свободы, 4, Харьков 61077 Украина

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КЛЮЧЕВЫЕ СЛОВА: Araneae, фауна Европы, список видов, охраняемые природные территории.

ABSTRACT. A total of 216 spider species is found in the 'Kuncherovskaya Lesostep' sector of the 'Privolzhskaya Lesostep' Nature Reserve. Two families and 44 species are new to the reserve's araneofauna. Currently, its updated list accounts for 273 species in 24 families. Three families — viz., Linyphiidae (19% of all the recorded species), Gnaphosidae (12%), and Lycosidae (12%) — predominated in the fauna of the 'Kuncherovskaya Lesostep' sector. A spider spatial distribution showed equal preferences both to steppe habitats (80 species) and to oak forests (79 species). Spider richness of other habitats studied was smaller: abandoned fields — 51–74 species; steppe oak grove — 71 species, pine, birch forests and meadows — 62 species each, sandy ravines — 61 species each, pine forest strip — 45 species, brook bank — 35 species, aspen forests — 33 species. A comparison of the araneofaunas' composition of seven protected forest-steppe areas in Central Russian and Volga Uplands showed no geography-related grouping. Obviously, the main driving factor defining a resemblance of spider fauna compositions was habitat similarity in the studied areas. As for the spider species composition, the 'Kuncherovskaya Lesostep' sector was the second richest after Samarskaya Luka; its araneofauna included 40.7% of widespread species and 11.6% of those recorded just from one of the seven studied reserves.

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РЕЗЮМЕ. На участке «Кунчеровская Лесостепь» государственного природного заповедника «Приволжская Лесостепь» зарегистрировано 216 видов пауков. Два семейства и 44 вида являются новыми для аранеофауны заповедника. На сегодняшний день ее обновленный список насчитывает 273 вида из 24 семейств. В фауне Кунчеровского участка доминировали три семейства: Linyphiidae (19% от общего списка), Gnaphosidae (12%) и Lycosidae (12%). Пространственное распределение пауков показало равное предпочтение степных местообитаний (80 видов) и дубовых лесов (79 видов). Видовой состав пауков других биотопов был беднее: залежи — 51–74 вида; дубово-березовый колок в степи — 71 вид, березовые леса, сосновые леса и луга — по 62 вида, песчаные овраги — 61 вид, сосновая лесополоса — 45 видов, берег ручья — 35 видов, осиновые леса — 33 вида. Сравнение состава аранеофаун семи охраняемых лесостепных территорий на Среднерусской и Приволжской возвышенностях не выявило различий, основанных на географическом положении. Очевидно, основным фактором, определяющим сходство локальных фаун, является биотопическое сходство изученных участков. По богатству видового состава пауков «Кунчеровская лесостепь» уступает только Самарской Луке; ее фауна включает 40,7% широко распространенных видов и 11,6% видов, отмеченных только в одном из семи изученных заповедников.

Introduction

In 2004 and 2005, arachnological studies in the 'Privolzhskaya Lesostep' Nature Reserve (Penza Area, Russia) were conducted by the initiative of the reserve's directorate and K.G. Mikhailov, the head of the Moscow branch of the Russian Entomological Society. A partial financial support was provided by the KMK Scientific Press (Moscow, Russia). Before our studies, 112 spider species had been known from Penza Area [Pyatin, 1988], with the reserve's territory remaining completely unexplored. To date, research results on the spider faunas of three reserve's sectors have already been published [Polchaninova, 2008, 2015a,b]; a total reserve's spider fauna currently consists of 228 species. The present paper finalizes the series of works



Fig. 1. A geographic location of the study site.

Рис. 1. Географическое положение исследуемого участка.

devoted to the araneofauna of the 'Privolzhskaya Lesostep' Reserve.

It is worth mentioning that in 2010 the 'Kuncherovskaya Lesostep' sector was totally burnt out by an uncontrolled summer fire. At present, its vegetation and animal communities are undergoing a post-pyrogenic succession. An annotated list of the spiders collected five years before the fire could serve as good comparative material for a future study of the post-burning recovery of reserve's araneofauna.

The aims of the present paper are (1) to compile an annotated species list of spiders of the 'Kuncherovskaya Lesostep' sector and (2) to compare its local spider richness with those of other forest-steppe reserves occurring in the East European Plain.

Study Area

'Kuncherovskaya Lesostep' is one of the five sectors of the 'Privolzhskaya Lesostep' Nature Reserve. It is situated in the Volga Upland, on the high watershed and slopes of various expositions in the basin of Kadada River, the tributary of Sura River. The sector is the most hilly and elevated part of Penza Area (Fig. 1), occupying some 1031 ha of which 80% is covered with forests. The sector includes a complex system of fragmented natural forests and plantations interspersed with dry grasslands, abandoned fields and sandy ravines. A grassy swamp with birch islets and a small brook with mesophytic meadows on its banks represent wetland habitats [Kudryavtsev, 2016].

The 'Kuncherovskaya Lesostep' sector has had a complicated history. Its territory was included in the Middle Volga Reserve in 1930–34, but later the conservation status was renounced. The pristine forests have been strongly and repeatedly transformed by ploughing and now are partly replaced by pine plantations. The present steppe plot is of a secondary origin. It has been preserved due to anthropogenic impact only. The steppe survived periodic ploughing and abandonment, being also used as a local airfield for several years. In 1965–1989, the sector had the status of a

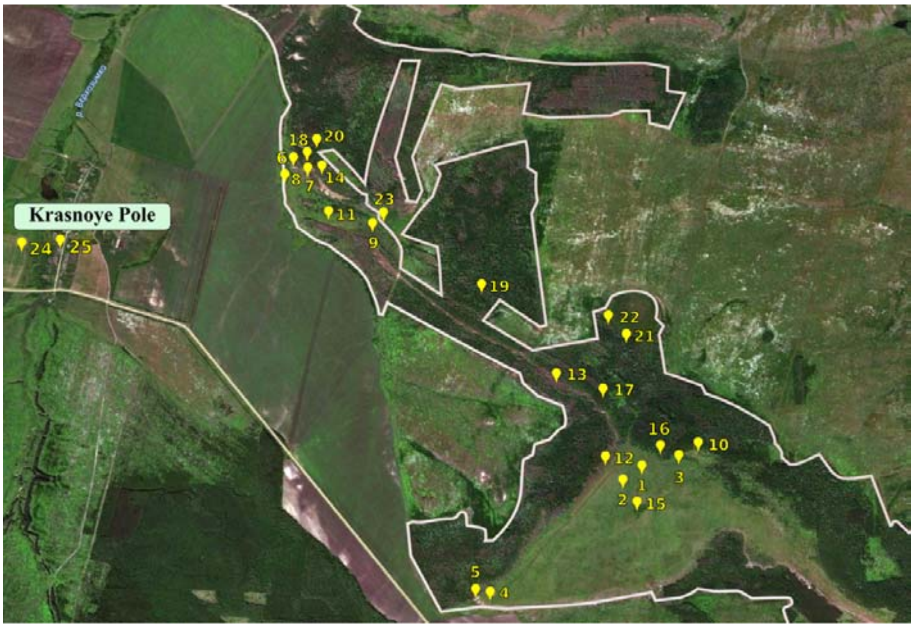


Fig. 2. Collecting localities in the "Kuncherovskaya Lesostep" sector of the 'Privolzhskaya Lesostep' Nature Reserve. For locality numbers and description see Table 1.

Рис. 2. Пункты сбора материала на участке «Кунчеровская лесостепь» заповедника «Приволжская Лесостепь». Нумерация точек и характеристика биотопов, см. Табл. 1.

Table 1. Collecting localities and brief habitat descriptions.
Таблица 1. Пункты сборов и краткое описание биотопов.

No	Abbre-viation	Geographical coordinates		Habitat description	Collec-tor
1	St1	52°48′53″N	46°21′14″E	secondary meadow steppe on the upper interfluves dominated by forbs and *Stipa tirsa* Steven,	NP
2	St2	52°48′49″N	46°21′08″E	secondary meadow steppe on the upper interfluves dominated by forbs and *Stipa pennata* L.	IL
3	St3	52°48′56″N	46°21′30″E	secondary meadow steppe on the upper interfluves dominated by *Calamagrostis epigejos* (L.) Roth	IL
4	St4	52°48′18″N	46°20′17″E	secondary forb-banchgrass steppe on a slope dominated by forbs and *Stipa borysthenica* Klokov ex Prokudin	IL
5	Rv1	52°48′19″N	46°20′12″E	bare sandy slope in a ravine	IL
6	Rv2	52°50′18″N	46°19′00″E	sandy slope in a ravine, with bare soil and scattered 5 to 7-year old pines	IL
7	Rv3	52°50′15″N	46°19′06″E	sandy slope of a ravine overgrown with shrubs	NP
8	Md	52°50′13″N	46°18′57″E	mesic meadow at a ravine bottom	NP
9	AbFl1	52°50′00″N	46°19′31″E	abandoned field (1992) with singular pine trees	IL
10	AbFl2	52°48′59″N	46°21′33″E	abandoned field (1982) on a slope covered with bushgrass, singular pine and birch trees	IL
11	AbFl3	52°50′09″N	46°19′14″E	abandoned field densely covered with 5 to 7-year old pines, grasses and forbs between trees	NP
12	PlP2	52°48′55″N	46°21′01″E	a strip of planted pines (40 year old) between the steppe and oak forest	NP
13	PF1	52°49′18″N	46°20′42″E	dry pine forest (70–90 years) with single beeches and aspens, mosses and 40-60% cover of grasses	IL
14	PF2	52°50′16″N	46°19′11″E	dry pine forest (over 90 years) with a developed understory, mosses and sparse herb layer	NP
15	OGr	52°48′42″N	46°21′16″E	oak grove with birch and aspen in the understory situated in the steppe on the upper interfluves	NP
16	FE	52°48′59″N	46°21′14″E	forest edge (middle-aged oak-lime forest bordering steppe)	NP
17	OF1	52°49′14″N	46°21′01″E	middle-aged oak forest (50–70 years) with an understory	IL, NP
18	OF2	52°50′20″N	46°19′08″E	old oak forest (over 75 years) with a developed understory and *Aegopodium padagraria* dominating the herb layer	NP
19	BF1	52°49′43″N	46°20′13″E	a strip of 40 to 50-year old birch trees along the road; no understory, the herb layer is dominated by couch grass, brome and clover	IL, NP
20	BF2	52°50′23″N	46°19′10″E	old birch forest (over 75 years) with developed understory, herb and fern layer	NP
21	AF1	52°49′29″N	46°21′09″E	55-year old aspen and oak forest with understory and poor grass cover	NP
22	AF2	52°49′35″N	46°21′03″E	old aspen forest along the bog	IL
23	BB	52°50′03″N	46°19′35″E	a brook bank	IL
24	VG	52°49′55″N	46°17′15″E	kitchen garden	IL, NP
25	DH	52°49′56″N	46°17′30″E	indoor habitats	NP

Collectors: NP — Nina Polchaninova, IL — Irina Lebyazhinskaya.

Nature Monument [Gorbushina, 2016; Leonova, 2016]. The 'Privolzhskaya Lesostep' Nature Reserve in its modern limits was established in 1989 thanks to the persistence of local scientists and nature conservationists, aiming at studying and protecting the existing ecosystems, as well as at monitoring a recovery of the initial aspect of this area under a natural succession [Kudryavtsev, 2016].

Material and Methods

Spiders were collected by sweeping, pitfall trapping and hand-picking. Two types of pitfall traps were used: 200 ml plastic cups (collector N. Polchaninova) and cropped two-liter plastic bottles (collector I. Lebyazhynskaya). In each studied habitat, traps were set up in a single line of 10 traps, at a distance 10 m from each other. A 4% formalin solution served as preservative. Traps were checked out monthly from May to October in 2004 and 2005. During the study, 5600 adult individuals of spiders were collected from 25 localities. Locality definitions, their coordinates and brief habitat descriptions (Table 1) are given according to the reserve map and are adopted from A. Kudryavtsev [2016] and L. Novikova [2016].

The spider taxonomy in the species list given below follows World Spider Catalogue [WSC, 2020] with minor changes. The list is arranged in an alphabetic order; it provides the locality code (in square brackets, as explained in Table 1), collecting date(s) and the number of males/females. Species numbers in the families are given in parentheses near the family name. The species and families that are new to the 'Privolzhskaya Lesostep' Nature Reserve are marked with an asterisk.

The studied material have been shared between the author's private collection (Kharkiv, Ukraine) and the Zoological Museum of the Moscow State University, Russia (curator: K.G. Mikhailov); the latter is abbreviated in the checklist as ZMMU.

In order to clarify the specificity of araneofauna of the 'Kuncherivskaya Lesostep' sector, we have compared its species composition with those of the six protected areas situated within the forest-steppe zone of East European Plain of Russia, as follows:

Central Russian Upland

'Streletskaya Steppe' and 'Kazatskaya Steppe' (the sectors of the Central-Chernozem Biosphere Reserve, Kursk Area) [Polchaninova, 2009; unpublished data].

'Yamskaya Steppe' (a sector of the Nature Reserve 'Belogorye', Belgorod Area) [Ponomarev, Polchaninva, 2006].

'Galichya Gora' Nature Reserve (the sites Morozova and Galichya Gora, Lipetsk Area) [Polchaninova *et al.*, 2015; unpublished data].

Volga Upland

'Ostrovtsovskaya Steppe' (a sector of the 'Privolzhskaya Lesostep' Nature Reserve, Penza Area) [Polchaninova, 2008].

The Middle Volga Complex Biosphere Reserve (Samara Area), further in the text as Samarskaya Luka [Krasnobayev, 2007].

The aforementioned conservation areas protect meadow steppes and deciduous forests as the main habitats; some of them also include wetlands, limestone outcrops and pine forests. Their spider species compositions were compared by means of the program PAST [Hammer *et al.*, 2001], using the Multidimensional Scaling (MDS) based on the Bray-Curtis similarity index.

Results and discussion

In the 'Kuncherovskaya Lesostep' sector, 216 spider species in 24 families were collected from 25 localities. In addition, 26 species were found in the nearest village, of which two species were not recorded from the reserve's territory. A species richness of the seven main families is ranged as follows: Linyphiidae (42 species, 19.4% of the species list), Gnaphosidae (26 species, 12.0%), Lycosidae (26 species, 12.0%), Theridiidae (23 species, 10.6%), Salticidae (19 species, 8.8%), Thomisidae (19 species, 8.8%), and Araneidae (18 species, 8.3%). Nine families accounted for one or two species only (Table 2).

Species list

Fam. ANYPHAENIDAE (1)

Anyphaena accentuata (Walckenaer, 1802)
[OF2], 2 ♂♂, 1 ♀, 25.05.2005, 1 ♀, 24.06.2005; [BF2], 1 ♀, 24.06.2005.

Fam. ARANEIDAE (18)

Agalenatea redii (Scopoli, 1763)
[St1], 1 ♀, 25.05.2005; [Rv3], 1 ♀, 24.05.2005; [AbFl3] 18 ♀♀, 23.05.2005; [Md], 3 ♀♀, 24.05.2005; [FE], 1 ♀, 23.05.2005.

Araneus alsine (Walckenaer, 1802)
[St1], 1 ♂, 23.06.2005; [PlP], 1 ♀, 14.07.2004; [OG], 1 ♀, 23.06.2005; [OF2], 2 ♂♂, 24.06.2005, ZMMU.

Araneus angulatus Clerck, 1758
[PlP], 1 ♀, 24.06.2005; [OF1], 1 ♀, 14.07.2004; 1 ♂, 1 ♀, 24.06.2005; [OF2], 2 ♀♀, 23.06.2005.

Araneus diadematus Clerck, 1758
[Rv2], 2 ♀♀, 23.09–19.10.2004; [AbFl3], 3 ♀♀, 10.09.2005; [PlP] 4 ♀♀, 9.09.2005; [PF2], 1 ♂, 6 ♀♀, 20.10.2005; [OG] 2 ♂♂, 5 ♀♀, 9.09.2005; [FE], 5 ♀♀, 10.10.2005; [OF1], 1 ♂, 14.07.2004, ZMMU; 3 ♀♀, 10.09.2005, 1 ♀, 10.09.2005, ZMMU; [OF2], 2 ♂, 7 ♀♀, 10.09.2005; [BF2], 6 ♀♀, 10.09.2005; [AF1], 1 ♂, 1 ♀, 9.09.2005; [AF2], 3 ♀♀, 9.09.2005.

Araneus marmoreus Clerck 1758
[Md], 1 ♀, 23.06.2005; [PlP], 3 ♀♀, 24.06.2005; [PF2], 1 ♂, 1 ♀, 24.06.2005; [FE], 1 ♀, 9.09.2005; [OGr], 1 ♀, 14.07.2004; [OF1], 5 ♀♀, 24.06.2005, 2 ♂♂, 2 ♀♀, 24.06.2005, ZMMU; [OF2], 2 ♀♀, 23.06.2005, 1 ♀, 10.09.2005; [BF2], 1 ♂, 24.06.2005, 1 ♀, 10.09.2005.

Araneus quadratus Clerck, 1758
[St1], 1 ♂, 2 ♀♀, 10.09.2005; [St3], 1 ♀, 9.10.2004; [Rv1], 2 ♀♀, 23.09?19.10.2004; [AbFl1], 2 ♂♂, 26.06–27.07.2005; [AbFl2], 1 ♀, 23.09–19.10.2004, 1 ♀, 29.08–9.10.2005; [AbFl3], 6 ♀♀, 9.09.2005; [Md], 2 ♂♂, 8 ♀♀, 15.07.2004, 5 ♀♀, 10.09.2005; [FE], 1 ♂, 1 ♀, 14.07.2004, 3 ♀♀, 9.10.2005; [BB], 2 ♀♀, 10.09.2005; [VG], 1 ♂, 29.06?27.07.2005, 4 ♀♀, 11.09.2005.

**Araniella cucurbitina* (Clerck, 1758)
[PlP], 1 ♀, 23.05.2005; [PF2], 1 ♀, 23.06.2005.

Araniella displicata (Hentz, 1847)
[BF2], 2 ♀♀, 23.06.2005, ZMMU, 1 ♀, 10.09.2005, ZMMU.

Argiope bruennichi (Scopoli, 1772)
[St1], 3 ♀♀, 10.09.2005; [Rv3], 2 ♀♀, 9.09.2005; [AbFl3], 2 ♀♀, 11.09.2005; [Md], 4 ♀♀, 10.09.2005; [FE], 1 ♂, 3 ♀♀, 14.07.2004, 2 ♀♀, 10.09.2005; [VG], 3 ♀♀, 11.09.2005.

Cercidia prominens (Westring, 1851)
[Md], 2 ♀♀, 23.05.2005, 1 ♂, 25.05–24.06.2005; [FE], 2 ♂♂, 24.05.2005; [OF1], 1 ♀, 14.07.2004.

Cyclosa conica (Pallas, 1772)
[AbFl3], 2 ♂♂, 1 ♀, 24.05.2005; [PlP], 1 ♀, 25.05.2005; [PF2], 2 ♀♀, 24.05.2005; [FE], 1 ♀, 24.05.2005. [OF1], 1 ♀, 24.05.2005; [OF2], 3 ♂♂, 1 ♀, 24.05.2005; [BF1], 1 ♂, 24.05.2005; [BF2], 1 ♀, 13.07.2004, 1 ♀, 24.05.2005; 1 ♀, 24.06.2005; [AF1], 2 ♀♀, 23.06.2005.

Cyclosa oculata (Walckenaer, 1802)
[AbFl3], 1 ♀, 14.07.2004, 4 ♂♂, 2 ♀♀, 25.05.2005, ZMMU; [OGr], 1 ♂, 23.06.2005.

Gibbaranea bituberculata (Walckenaer, 1802)
[AbFl3], 3 ♂♂, 4 ♀♀, 23.05.2005, ZMMU; [PlP], 1 ♂, 24.05.2005; [PF2], 1 ♂, 3 ♀♀, 23.05.2005; [OG], 2 ♂♂, 2 ♀♀, 24.05.2005; [FE], 2 ♂♂, 5 ♀♀, 24.05.2005; [OF1], 2 ♂♂, 3 ♀♀, 24 .05.2005.

**Hypsosinga albovittata* (Westring, 1851)
[St1], 1 ♂, 1 ♀, 24.05.2005, ZMMU; [AbFl3], 1 ♀, 23.06.2005, ZMMU.

Hypsosinga sanguinea (C.L. Koch, 1844)
[St1], 1 ♀, 14.07.2004, 2 ♂♂, 3 ♀♀, 25.05.2005, 1 ♀, 24.05?20.06.2005, 1 ♀, 23.06.2005; [Rv3], 1 ♀, 24.05.2005; 1 ♂, 25.05–24.06.2005; [Md], 1 ♀, 24.05.2005; [AbFl3], 1 ♀, 14.07.2004, 1 ♀, 23.05.2005; [PlP], 2 ♀♀, 24.05.2005, 1 ♂, 1 ♀, 24.05.2005, ZMMU; [OGr], 2 ♂♂, 1 ♀, 24.05.2005, ZMMU 1 ♀, 23.06.2005; [FE], 2 ♂♂, 1 ♀, 24.05.2005.

Mangora acalypha (Walckenaer, 1802)
[St1], 2 ♂♂, 2 ♀♀, 24.05.2005, 1 ♀, 24.05–20.06.2005; [Rv3], 3 ♀♀, 24.05.2005; [Md], 1 ♀, 14.07.2004, 4 ♂♂, 2 ♀♀, 24.05.2005, 4 ♀♀, 23.06.2005; [AbFl3], 1 ♂, 4 ♀♀, 23.05.2005; [PlP], 2 ♀♀, 24.06.2005; [FE], 2 ♂♂, 4 ♀♀, 24.05.2005, 5 ♀♀, 23.06.2005; [PF2], 1 ♀, 23.06.2005; [OF1], 1 ♀, 14.07.2004, 1 ♂, 2 ♀♀, 24.05.2005, [OF2], 4 ♀♀, 24.06.2005; [BF1], 1 ♂, 24.05.2005; [BF2], 2 ♀♀, 23.06.2005; [VG], 1 ♀, 14.07.2004, 2 ♀♀, 24.06.2005.

Neoscona adianta (Walckenaer, 1802)
[St1], 2 ♂♂, 2 ♀♀, 14.07.2004; [AbFl3], 1 ♂, 15.07.2004.

**Zilla diodia* (Walckenaer, 1802)
[PF2], 2 ♂♂, 24.05.2005, ZMMU; [OF2], 1 ♀, 24.05.2005.

Fam. CHEIRACANTHIIDAE (3)

Cheiracanthium erraticum (Walckenaer, 1802)
[Md], 1 ♂, 3 ♀♀, 13.07.2004, 2 ♂♂, 1 ♀, 24.05.2005, 2 ♂♂, 24.05.2005, ZMMU, 1 ♂, 3 ♀♀, 23.06.2005, ZMMU; [AbFl3], 1 ♀, 13.07.2004; [FE], 1 ♀, 24.05.2005.

**Cheiracanthium punctorium* (Villers, 1789)
[Md], 2 ♀♀, 9.09.2005, ZMMU.

**Cheiracanthium virescens* (Sundevall, 1833)
[AbFl1], 1 ♀, 10.08–23.09.2004.

Fam. CLUBIONIDAE (3)

Clubiona caerulescens L. Koch, 1867
[PF1], 1 ♀, 13.08–30.09.2004; [PF2], 1 ♀, 24.05.2005, ZMMU, 1 ♂, 10.09.2005, ZMMU; [OF2], 1 ♂, 24.05.2005, ZMMU; 1 ♀, 10.09.2005; [BF2], 1 ♀, 10.09.2005; [AF1], 1 ♂, 23.05.2005.

Clubiona neglecta O. Pickard-Cambridge, 1862
[St1], 1 ♀, 14.07.2004, 1 ♀, 10.09.2005; [Md], 1 ♂, 23.06.2005; [PF2], 1 ♂, 24.05.2005, ZMMU, 1 ♀, 23.06.2005; [OGr], 1 ♂, 23.06.2005; [FE], 1 ♂, 24.05.2005; [AFl], 1 ♂, 1 ♀, 29.06–27.07.2005.

**Clubiona subsultans* Thorell, 1875
[PF1], 1 ♂, 13.08–30.09.2004.

Fam. DICTYNIDAE (3)

**Archaeodictyna consecuta* (O. Pickard-Cambridge, 1872)
[Md], 1 ♂, 24.05.2005, ZMMU; [OGr], 1 ♀, 14.07.2004.

Dictyna arundinacea (Linnaeus, 1758)
[St1], 1 ♀, 14.07.2004, 1 ♀, 23.06.2005; [Md], 2 ♀♀, 14.07.2004, 1 ♀, 24.05.2005; [AbFl3], 2 ♂♂, 2 ♀♀, 24.05.2005, 1 ♀, 23.06.2005; [OGr], 1 ♀, 23.06.2005.

Dictyna uncinata Thorell, 1856
[OGr], 1 ♂, 2 ♀♀, 24.05.2005; [OF2], 4 ♀♀, 24.05.2005, ZMMU; [BF2], 2 ♂♂, 24.05.2005, ZMMU, 1 ♀, 23.06.2005; [AF2], 2 ♀♀, 24.06.2005.

*Fam. ERESIDAE (1)

**Eresus kollari* Rossi, 1846
[St2], 4 ♂♂, 13.08–4.09.2004; 1 ♂, 28.08–14.10.2005; [St4], 1 ♂, 28.08–14.10.2005; [Rv1], 1 ♂, 23.09–19.10.2004, [AbFl2], 1 ♂, 23.09–19.10.2004; [VG], 2 ♂♂, 28.08–14.10.2005.

Fam. GNAPHOSIDAE (26)

Berlandina cinerea (Menge, 1872)
[St1], 5 ♂♂, 24.05–24.06.2005, ZMMU; [St2], 1 ♀, 13.08–4.09.2004, ZMMU, 8 ♀♀, 10.05–26.06.2005; [St4], 17 ♂♂, 2 ♀♀, 10.05–26.06.2005; [Rv1], 1 ♀, 23.09–19.10.2004, 8 ♂♂, 24.05.2005, 2 ♀♀, 27.07–28.08.2005, 1 ♀, 28.08–14.10.2005; [Rv2], 1 ♂, 5 ♀♀, 12.05–26.06.2005; [AbFl3], 10 ♂♂, 25.05–24.06.2005; [PlP], 10 ♂♂, 24.05–24.06.2005; [PF1], 1 ♂, 2.05–29.06.2005; [PF2], 1 ♂, 1 ♀, 25.05–24.06.2005.

Callilepis nocturna (Linnaeus, 1758)
[AbFl1], 1 ♂, 10.05–26.06.2005; [PF1], 1 ♀, 12.05–29.06.2005.

Drassodes pubescens (Thorell, 1856)
[St1], 1 ♂, 24.05–24.06.2005, ZMMU; [St2], 5 ♀♀, 13.08–4.09.2004, 1 ♂, 10.05–26.06.2005, 1 ♀, 28.08–14.10.2005; [St3], 1 ♀, 9.10.2004; [St4], 1 ♀, 23.09–19.10.2004, 1 ♂, 28.08–14.10.2005; [Rv1], 1 ♀, 27.07–28.08.2005; [Rv2], 1 ♀, 12.05–26.06.2005, 1 ♀, 29.07–28.08.2005; [Rv3] 2 ♂♂, 25.05–24.06.2005; [AbFl1], 3 ♂♂, 26.06–27.07.2005; [AbFl2], 1 ♀, 23.09–19.10.2004, 1 ♀, 29.08–9.10.2005; [Md], 1 ♂, 1 ♀, 25.05–24.06.2005, ZMMU, 1 ♀, 23.06.2005, ZMMU; 1 ♀, 28.08–14.10.2005, ZMMU; [PlP], 1 ♂, 24.05–24.06.2005; [OGr], 3 ♂♂, 1 ♀, 10–14.07.2004, 1 ♂, 25.05–24.06.2005, 1 ♀, 23.06.2005; [BB], 1 ♂, 25.06–26.07.2005.

Drassyllus lutetianus (L. Koch, 1866)
[PlP], 1 ♂, 1 ♀, 24.05–24.06.2005, 2 ♂♂, 24.05–24.06.2005, ZMMU; [VG], 2 ♂♂, 3 ♀♀, 15.05–29.06.2005.

Drassyllus praeficus (L. Koch, 1866)
[St1], 1 ♂, 25.05–24.06.2005; [St2], 1 ♀, , ZMMU, 1 ♀, 10.05–26.06.2005, ZMMU; [St4], 5 ♂♂, 10.05–26.06.2005; [Rv2], 1 ♂, 1 ♀, 12.05–26.06.2005, ZMMU; [Rv3], 1 ♂, 25.05–24.06. 2005; [AbFl1], 2 ♂♂, 10.05–26.06.2005, ZMMU; [AbFl2], 2 ♂♂, 10.05–26.06.2005; [Md], 1 ♂, 25.05–24.06.2005; [PF1], 1 ♀, 13.08–30.09.2004, 1 ♂, 1 ♀, 12.05–29.06.2005, 1 ♀, 27.07–29.08.2005; [PF2], 4 ♂♂, 24.05–24.06.2005; [OF1], 1 ♀, 26.06–30.07.2005; [BB], 4 ♂♂, 25.06–26. 13.08–4.09.2004; [VG], 1 ♂, 15.05–29.06.2005.

Drassyllus pusillus (C.L. Koch, 1833)
[St1], 1 ♀, 10–13.07.2004, 1 ♀, 24.05–24.06.2005; [St2], 4 ♂♂, 10.05–26.06.2005; [St3], 1 ♂, 1 ♀, 15.07–9.08.2004; [St4], 8 ♂♂, 10.05–26.06.2005; [Rv1], 1 ♀, 27.07–28.08.2005; [Rv2], 1 ♀, 12.05–26.06.2005, 1 ♂, 27.06–29.07.2005; [AbFl1], 15 ♂♂, 14 ♀♀, 10.05–26.06.2005, 1 ♂, 5 ♀♀, 26.06–27.07.2005; [AbFl2], 15 ♂♂, 10.05–26.06.2005, 1 ♂, 1 ♀, 29.07–29.08.2005; [AbFl3], 25 ♂♂, 24.05–20.06.2005, 2 ♂♂, 3 ♀♀, 24.05–20.06.2005, ZMMU; [PF2], 1 ♂, 25.05–24.06.2005; [FE], 1 ♂, 25.05–24.06.2005; [OGr], 4 ♂♂, 1 ♀, 25.05?24.06.2005; [OF2], 1 ♂, 25.05–24.06.2005; [BB], 12 ♂♂, 3 ♀♀, 25.06–26.07.2005; [VG], 2 ♂♂, 15.05–29.06.2005, 1 ♂, 29.06–27.07.2005.

Gnaphosa bicolor (Hahn, 1833)
[Rv2], 1 ♂, 12.5–26.06.2005; [Rv3] 3 ♂♂, 25.05–24.06.2005; [AbFl1], 1 ♂, 10.05–26.06.2005; [AbFl3], 1 ♂♂, 25.05–24.06.2005; [Md], 1 ♂, 25.05–24.06.2005; [PF1], 4 ♂♂, 12.05–29.06.2005; [PF2], 4 ♂♂, 25.05–24.06.2005; [OGr], 46 ♂♂, 25.05–24.06.2005, 5 ♂♂, 1 ♀, 25.05–24.06.2005, ZMMU; [OF2], 7 ♂♂, 2 ♀♀, 25.05–24.06.2005; [AF1], 2 ♂♂, 25.05–24.06.2005.

**Gnaphosa licenti* Schenkel, 1953
[Rv2], 1 ♂, 27.06–29.07.2005.

Gnaphosa montana (L. Koch, 1866)
[Rv1], 1 ♂, 24.05.2005; [AbFl3], 2 ♂♂, 24.05–24.06.2005, ZMMU; [OGr], 1 ♀, 25.05–24.06.2005, ZMMU.

**Haplodrassus dalmatensis* (L. Koch, 1866)
[AbFl3], 1 ♂, 24.05–24.06.2005, ZMMU.

Haplodrassus signifer (C.L. Koch, 1839)
[St1], 1 ♂, 1 ♀, 10–13.07.2004, 7 ♂♂, 3 ♀♀, 24.05–24.06.2005; [St2], 1 ♂, 10.05–20.06.2005; [St3], 3 ♂♂, 2 ♀♀, 15.07–9.08.2004; [St4], 5 ♂♂, 3 ♀♀, 10.05–26.06.2005; [Rv1], 1 ♀, 23.09–19.10.2004, 1 ♂, 1 ♀, 26.06–27.07.2005; [Rv2], 4 ♂♂, 12.05–26.06.2005, 1 ♂, 29.07–28.08.2005; [Rv3] 4 ♂♂, 2 ♀♀, 25.05–24.06.2005; [AbFl1], 15 ♂♂, 2 ♀♀, 10.05–26.06.2005, 5 ♂♂, 26.06–27.07.2005; [AbFl2], 1 ♀, 23.09–19.10.2004, 3 ♂♂, 10.05–26.06.2005, 3 ♂♂, 2 ♀♀, 29.07–29.08.2005; [AbFl3], 13 ♂♂, 1 ♀, 25.05–24.06.2005; [Md], 14 ♂♂, 5 ♀♀, 25.05–24.06.2005, 4 ♂♂, 4 ♀♀, 25.05–24.06.2005, ZMMU; [PlP], 1 ♂, 1 ♀, 24.05–24.06.2005; [PF1], 5 ♂♂, 12.05–29.06.2005; [PF2], 3 ♂♂, 1 ♀, 25.05–24.06.2005; [OGr], 1 ♂, 14.07.2004, 1 ♂, 1 ♀, 25.05–24.06.2005; [OF2], 1 ♂, 25.05–24.06.2005; [AF1], 1 ♂, 25.05–24.06.2005; [BB], 1 ♀, 25.06–26.07.2005.

Haplodrassus silvestris (Blackwall, 1833)
[Rv2], 1 ♂, 1 ♀, 26.06–27.07.2005; [AbFl1], 1 ♂, 1 ♀, 10.05–26.06.2005; [PF1], 1 ♂, 12.05–29.06.2005; [PF2], 1♂, 25.05–24.06.2005; [OGr], 1 ♂, 25.05–24.06.2005, 1 ♀, 10.09.2005; [OF1], 1 ♀, 30.07–25.08.2005; [OF2], 1 ♂, 2 ♀♀, 25.05–24.06.2005, ZMMU; [AF1], 1 ♀, 25.05–24.06.2005; [BB], 1 ♂, 25.06–26.07.2005.

Haplodrassus soerenseni (Strand, 1900)
[OF2], 6 ♂♂, 25.05–24.06.2005, 3 ♂♂, 1 ♀, 25.05–24.06.2005, ZMMU; [BF2], 1 ♀, 24.05.2005; [AF1], 12 ♂♂, 25.05–24.06.2005.

Haplodrassus umbratilis (L. Koch, 1866)
[PlP] 1 ♂, 25.05–24.06.2005; [PF1], 5 ♂♂, 1 ♀, 12.05–29.06.2005; [PF2], 1 ♂, 25.05–24.06.2005; [OGr], 13 ♂♂, 4 ♀♀, 25.05–24.06.2005, 4 ♂♂, 3 ♀♀, 25.05–24.06.2005, ZMMU; [OF1], 1 ♀, 25.08–15.10.2005; [OF2], 12 ♂, 24.05.2005, 3 ♂♂, 25.05–24.06.2005; [AF1], 12 ♂♂, 1 ♀, 25.05–24.06.2005, 1 ♀, 27.07–29.08.2005.

Micaria formicaria (Sundevall, 1831)
[St3], 1 ♂, 1 ♀, 15.07–9.08.2004; [AbFl1], 1 ♀, 26.06–27.07. 2005; [AbFl2], 1 ♂, 1 ♀, 29.07–29.08.2005; [BB], 1 ♀, 13.08–20.09.2004.

Micaria fulgens (Walckenaer, 1802)
[PF1], 1 ♀, 13.08–30.09.2004; [BB], 1 ♂, 25.06–26.07.2005.

Micaria pulicaria (Sundevall, 1831)
[St4], 1 ♂, 10.05–26.06.2005; [Rv3] 1 ♂, 25.05–24.06.2005; [Md], 1 ♂, 25.05–24.06.2005; [OGr], 1 ♂, 24.05.2005.

Micaria silesiaca L. Koch, 1875
[AbFl3], 1 ♂, 24.05–20.06.2005, 3 ♂♂, 1 ♀, 24.05–20.06.2005, ZMMU.

Zelotes azsheganovae Esyunin et Efimik, 1992
[St1], 2 ♂♂, 24.05–26.06.2005; [St2], 2 ♂♂, 10.05–26.06. 2005; [St4], 2 ♂♂, 2 ♀♀, 10.05–26.06.2005; [Rv2], 1 ♂, 12.05–26.06.2005; [OGr], 1 ♂, 10–14.07.2004; [BB], 5 ♂♂, 25.06–26.07.2005, 1 ♂, 28.08–14.10.2005 [Evtushenko *et al*., 2015].

Zelotes clivicola (L. Koch, 1870)
[AbFl1], 1 ♀, 28.08–14.10.2005; [OF1], 1 ♂, 29.08–15.10.2005.

**Zelotes electus* (C.L. Koch, 1839)
[St1], 3 ♂♂, 24.05–24.06.2005, ZMMU; [St2], 1 ♂, 13.08–4.09.2004, ZMMU, 7 ♂♂, 1 ♀, 10.05–26.06.2005; [St3], 1 ♀, 29.08?9.10.2005; [St4], 10 ♂♂, 2 ♀♀, 10.05–26.06.2005; [Rv1], 1 ♂, 27.07–28.08.2005; [AbFl2], 1 ♂, 1 ♀, 29.08–9.10.2005; [Md], 1 ♀, 25.05–24.06.2005; [AbFl3], 1 ♀, 24.05–20.06.2005; [PlP], 2 ♂♂, 25.05–24.06.2005.

**Zelotes fuscus* (Thorell, 1875)
[PF1], 3 ♂♂, 5 ♀♀, 12.05–29.06.2005.

Zelotes latreillei (Simon, 1878)
[St2],1 ♀, 13.08–4.09.2004; [St3], 1 ♂, 1 ♀, 9.10.2004; [Rv1], 2 ♂♂, 1 ♀, 28.08–14.10.2005; [AbFl1], 1 ♂, 1 ♀, 10.08–23.09.2004, 2 ♂♂, 2 ♀♀, 10.05–26.06.2005, 1 ♀, 26.06–27.07.2005, 4 ♂♂, 6 ♀♀, 27.07–28.08.2005, 2 ♂♂, 1 ♀, 28.08–14.10.2005; [AbFl2], 3 ♂♂, 23.09–19.10.2004, 2 ♂♂, 4 ♀♀, 10.05–26.06.2005; [PlP], 2 ♂♂, 4 ♀♀, 24.05–24.06.2005, ZMMU; [OGr], 1 ♂, 1 ♀, 24.05.2005, 1 ♂, 1 ♀, 25.05–24.06.2005, 1 ♀, 10.09.2005; [BB], 3 ♂♂, 1 ♀, 13.08–20.09.2004, 1♂♂, 3 ♀♀, 25.06–26.07.2005.

Zelotes longipes (L. Koch, 1866)
[St1], 3 ♀♀, 24.05–20.06.2005; [St2], 29 ♂♂, 5 ♀♀, 13.08–4.09.2004, 1 ♀, 10.05–20.06.2005, 1 ♀, 28.08–14.10.2005; [St4], 1 ♀, 23.09–19.10.2004, 1 ♀, 10.05–26.06.2005; [Rv1], 1 ♂, 1 ♀, 23.09–19.10.2004, 15 ♂♂, 3 ♀♀, 27.07–28.08.2005; [Rv2], 1 ♀, 12.05–26.06.2005, 1 ♀, 27.06–29.07.2005, 2 ♀♀, 29.07–28.08.2005; [AbFl1], 1 ♂, 1 ♀, 10.08–23.09.2004, ZMMU, 3 ♂♂, 27.07–

28.08.2005; [AbFl3], 2 ♀♀, 25.05–24.06.2005, ZMMU; [PlP], 8 ♀♀, 24.05–20.06.2005.

Zelotes petrensis (C.L. Koch, 1839)
[St1], 4 ♂♂, 24.05–24.06.2005; [St2], 1 ♂, 10.05–20.06.2005, 4 ♂♂, 28.08–14.10.2005; [St4], 2 ♂♂, 23.09–19.10.2004, 8 ♂♂, 10.05–26.06.2005, 1 ♂, 28.08–14.10.2005; [Rv1], 1 ♂, 1 ♀, 23.09–19.10.2004, 3 ♂♂, 27.07–28.08.2005 ZMMU, 1 ♀, 28.08–14.10.2005, ZMMU; [Rv2], 1 ♂, 12.05–26.06.2005; [AbFl1], 2 ♀♀, 10.05–26.06.2005, ZMMU; [AbFl2], 2 ♂♂, 23.09–19.10.2004; [AbFl3], 1♂, 25.05–24.06.2005; [PlP], 1 ♂, 24.05–24.06.2005; [PF1], 2 ♂♂, 1 ♀, 13.08–30.09.2004, 7 ♂♂, 4 ♀♀, 12.05–29.06.2005, 1 ♂, 3 ♀♀, 27.07–29.08.2005; [OGr], 1 ♂, 24.05.2005.

Zelotes subterraneus (C.L. Koch, 1833)
[Rv1], 1♀, 28.08–14.10.2005; [Md], 1 ♀, 25.05–24.06.2005; [PF1], 8 ♂♂, 2 ♀♀, 13.08–30.09.2004, 2 ♂♂, 7 ♀♀, 12.05–29.06.2005, 3 ♂♂, 9 ♀♀, 27.07–29.08.2005, 4 ♂♂, 29.08–15.10.2005; [OGr], 1 ♀, 25.05–24.06.2005; [OF1], 1 ♀, 26.06–30.07.2004, 3 ♂♂, 5 ♀♀, 30.07–25.08.2005, 12 ♂♂, 9 ♀♀, 29.08–15.10.2005; [OF2], 2 ♂♂, 25.05–24.06.2005; [BF1], 1 ♀, 23.06.2005; [AF1], 1 ♂, 25.05–24.06.2005; [AF2], 2 ♂♂, 3 ♀♀, 13.08–8.10.2004; [VG], 4 ♂♂, 28.08–14.10.2005.

Fam. HAHNIIDAE (2)

Hahnia nava (Blackwall, 1841)
[AbFl3], 1 ♂, 25.05–24.06.2005.

**Hahnia ononidum* Simon, 1875
[PF1], 1 ♀, 13.08–30.09.2004; [PF2], 1 ♀, 10.09.2005, ZMMU; [OGr], 1 ♀, 14.07.2004, [OF2], 1 ♂, 23.06.2005, ZMMU; [BF1], 1 ♂, 24.05.2005, ZMMU.

Fam. LINYPHIIDAE (43)

Abacoproeces saltuum (L. Koch, 1872)
[PlP], 1 ♀, 24.05–24.06.2005; [PF2], 1 ♀, 25.05–24.06.2005, 3 ♀♀, 10.09.2005; [OGr], 1 ♂, 1 ♀, 24.05.2005, 2 ♂♂, 25.05–24.06.2005; [OF1], 1 ♀, 29.08–15.10.2005; [OF2], 1 ♂, 2 ♀♀, 24.05.2005; 8 ♂♂, 8 ♀♀, 25.05–24.06.2005, 4 ♂♂, 2 ♀♀, 25.05–24.06.2005, ZMMU, 1 ♀, 26.06–30.07.2005; [BF2], 1 ♀, 10.09.2005; [AF1], 1 ♂, 25.05–24.06.2005.

**Agyneta fuscipalpa* (C.L. Koch, 1836)
[St1], 1 ♂, 14.07.2014, ZMMU, 1 ♀, 10–13.07.2004; [Md], 1 ♀, 24.05–20.06.2005.

Agyneta rurestris (C.L. Koch, 1836)
[St1], 1 ♂, 24.05–20.06.2005, ZMMU; [St2], 2 ♀♀, 10.05–26.06.2005, ZMMU; [St3], 1 ♀, 15.07–9.08.2004, ZMMU; [St4], 1 ♂, 10.05–26.06.2005, ZMMU; [AbFl2], 1 ♀, 23.09–19.10.2004, 1 ♀, 29.07–29.08.2005; [OF1], 2 ♀♀, 29.08–15.10.2005.

**Agyneta simplicitarsis* (Simon, 1884)
[Md], 3 ♂♂, 25.05–24.06.2005, 1 ♂, 25.05–24.06.2005, ZMMU; [AbFl3], 1 ♀, 25.05–24.06.2005, 2 ♀♀, 25.05–24.06.2005, ZMMU.

Anguliphantes angulipalpis (Westring, 1851)
[PF1], 1 ♂, 1 ♀, 13.08–30.09.2004; [PF2], 1 ♀, 10.09.2005, ZMMU; [OG], 1 ♀, 24.05.2005, ZMMU 1 ♀, 10.09.2005; [OF2], 1 ♀, 9.09.2005.

Bathyphantes approximmatus (O. Pickard-Cambridge, 1871)
[BB], 1 ♀, 13.08–20.09.2004.

Bathyphantes nigrinus (Westring, 1851)
[OF1], 1 ♀, 26.06–30.07.2005; [OF2], 1 ♀, 24.05.2005; [BF2], 1 ♂, 24.05.2005, ZMMU.

Bolyphantes alticeps (Sundevall, 1833)
[PF2], 2 ♂♂, 10.09.2005, ZMMU; [OF1], 1 ♀, 29.08–15.10.2005; [OF2], 1 ♂, 1 ♀, 10.09.2005, ZMMU; [BF2], 6 ♀♀, 10.09.2005, 1 ♂, 3 ♀♀, 10.09.2005, ZMMU; [AF1], 2 ♀♀, 10.09.2005.

Centromerus sylvaticus (Blackwall, 1841)
[St1], 1 ♀, 10.09.2005; [AbFl1], 2 ♂♂, 1 ♀, 28.08–14.10.2005; [PF1], 2 ♂♂, 1 ♀, 13.08–30.09.2004; [OGr], 1 ♂, 24.05.2005, 1 ♂, 10.09.2005; [OF2], 2 ♂♂, 10.09.2005, ZMMU; [BB], 2 ♀♀, 13.08–20.09.2004; [VG], 3 ♂♂, 29.06–27.07.2005.

Ceratinella brevis (Wider, 1834)
[Rv3], 1 ♀, 25.05–24.06.2005; [PF2], 1 ♂, 10.09.2005, ZMMU; [OGr], 1 ♀, 24.05.2005, ZMMU, 1 ♀, 10.09.2005, ZMMU.

Dicymbium nigrum (Blackwall, 1834)
[BB], 1 ♀, 25.06–26.07.2005.

Diplocephalus connatus Bertkau, 1889
[PF2], 1 ♀, 24.05–20.06.2005.

Diplocephalus picinus (Blackwall, 1841)
[OF2], 1 ♀, 14.07.2004 ZMMU, 2 ♂♂, 1 ♀, 25.05–24.06.2005, 1 ♀, 26.06.2005, ZMMU.

Diplostyla concolor (Wider, 1834)
[AbFl1], 1 ♂, 10.08–23.09.2004, 3 ♂♂, 26.06–27.07.2005; [OGr], 1 ♂, 25.05–24.06.2005; [OF1], 1 ♀, 26.06–30.07.2004; [OF2], 1 ♀ 23.06.2005; [BF2], 1 ♀, 25.08–23.09.2005; [BB], 1 ♀, 13.08–20.09.2004, 1 ♀, 25.06–26.07.2005.

**Dismodicus elevatus* (C.L. Koch, 1838)
[OF2], 1 ♀, 23.06.2005.

Entelecara acuminata (Wider, 1834)
[PF2], 1 ♀, 24.05.2005; [OGr], 1 ♂, 24.04.2005, 1 ♂, 25.05–24.06.2005; [OF2], 1 ♂, 2 ♀♀, 24.05.2005, 2 ♀♀, 24.05.2005, ZMMU, 2 ♀♀, 23.06.2005; [BF1], 1 ♂, 1 ♀, 24.05.2005, ZMMU, ♀♀, 23.06.2005.

Erigone dentipalpis (Wider, 1834)
[St1], 1 ♂, 1 ♀, 24.05.2005.

**Gnathonarium dentatum* (Wider, 1834)
[AbFl3], 1 ♂, 24.05–20.06.2005, ZMMU.

**Gonatium paradoxum* (L. Koch, 1869)
[OF1], 1 ♂, 29.08–15.10.2005; [BF1], 1 ♂, 1 ♀, 10.09.2005, ZMMU.

Gongylidium rufipes (Linnaeus, 1758)
[OF1], 1 ♀, 24.05.2005; [OF2], 2 ♀♀, 24.05.2005; [BF1], 2 ♂♂, 24.05.2005.

Helophora insignis (Blackwall, 1841)
[PF2], 4 ♀♀, 10.09.2005; [OF2], 1 ♂, 6 ♀♀, 10.09.2005, 3 ♂♂, 3 ♀♀, 10.09.2005, ZMMU; [BF2], 2 ♂♂, 15 ♀♀, 10.09.2005; [AF1], 1 ♀, 13.08–8.10.2004.

Linyphia hortensis Sundevall, 1830
[PF2], 1 ♂, 1 ♀, 24.05.2005; [OGr], 1♀, 24.04.2005; [OF1], 2 ♀♀, 24.05.2005, ZMMU; [OF2], 2 ♂♂, 2 ♀♀, 24.05.2005, ZMMU,

3 ♀♀, 25.05–24.06.2005, 1 ♀, 23.06.2005; [BF2], 1 ♀, 24.05.2005, ZMMU, 1 ♀, 23.06.2005; [AF1], 2 ♀♀, 24.05.2005; [AF2], 5 ♀♀, 24.05.2005.

Linyphia triangularis (Clerck, 1758)
[AbFl3], 4 ♀♀, 9.09.2005; [PF2], 5 ♀♀, 10.09.2005; [OG], 1 ♂, 1 ♀, 10.09.2005; [FE], 2 ♂♂, 10 ♀♀ 10.09.2005; [OF2], 3 ♂♂, 13 ♀♀, 10.09.2005; [BF2], 2 ♀♀, 10.09.2005, 2 ♂♂, 4 ♀♀, 10.09.2005, ZMMU; [AF2], 1 ♀, 13.08–8.10.2004, 7 ♀♀, 9.09.2005.

Macrargus rufus (Wider, 1834)
[PF2], 1 ♀, 24.05.2005; [OF2], 1 ♀, 24.05.2005; [AF1], 2 ♀♀, 24.05–20.06.2005, ZMMU.

**Micrargus subaequalis* (Westring, 1851)
[St4], 1 ♂, 10.05–26.06.2005, ZMMU; [AbFl3], 1 ♂, 1 ♀, 24.05–20.06.2005, ZMMU.

Microlinyphia pusilla (Sundevall, 1830)
[St1], 2 ♀♀, 10–13.07.2004; [St3], 1 ♀, 9.10.2004; [AbFl2], 1 ♀, 29.08–9.10.2005; [OGr], 1 ♀, 10–13.07.2004; [OF2], 1 ♂, 25.05–24.06.2005.

Microneta viaria (Blackwall, 1841)
[PF2], 2 ♂♂, 5 ♀♀, 10.05.2005; [OGr], 1 ♀, 25.05–24.06.2005, 3 ♀♀, 10.09.2005; [OF2], 3 ♂♂, 3 ♀♀, 10.09.2005, ZMMU; [AF1], 1 ♂, 24.05.2005.

**Nematogmus sanguinolentus* (Walckenaer, 1841)
[PF2], 1 ♂, 23.06.2005, ZMMU.

Neriene clathrata (Sundevall, 1830)
[St1], 1 ♀, 23.06.2005; [AbFl1], 1 ♂, 10.05–26.06.2005; [Md], 1 ♂, 25.05.2005; [PF1], 1 ♀, 13.08–30.09.2004; [PF2], 1 ♀, 24.05–24.06.2005, 1 ♀, 10.09.2005, ZMMU; [OGr], 3 ♀♀, 10–13.07.2004, 1 ♂, 2 ♀♀, 25.05–24.06.2005, ZMMU; [OF2], 1 ♀, 24.05.2005; [BF2], 1 ♂, 24.05.2005; [AF1], 1 ♂, 10.09.2005; [BB], 1 ♂, 25.06–26.07.2005.

Neriene montana (Clerck, 1758)
[OF2], 1 ♂, 24.05.2005; [BF2], 1 ♂, 1 ♀, 24.05.2005.

Neriene radiata (Walckenaer, 1842)
[OGr], 1♀, 10–13.07.2004, 1 ♂, 2 ♀♀, 24.05.2005, 1 ♂, 23.06.2005; [OF1], 1 ♂, 1 ♀, 24.05.2005; [OF2], 1 ♂, 2 ♀♀, 24.05.2005; [BF2], 1 ♂, 1 ♀, 24.05.2005; [AF1], 2 ♀♀, 24.06.2005.

Oedothorax retusus (Westring, 1851)
[VG], 1 ♀, 15.05–29.06.2005.

Panamomops mengei Simon, 1926
[OF2], 1 ♀, 14.07.2004, ZMMU; [BF2], 1 ♂, 14.07.2004.

Pocadicnemis pumila (Blackwall, 1841)
[St4], 1 ♂, 10.05–26.06.2005; [PF2], 1 ♂, 23.06.2005; [OGr], 1 ♂, 1 ♀, 25.05–24.06.2005, ZMMU; [OF2], 1 ♂, 24.05.200, ZMMU 5; 1 ♀, 25.05–24.06.2005, ZMMU; [BF2], 1 ♀, 25.05–24.06.2005; [BB], 1 ♂, 25.06–26.07.2005.

Russocampus polchaninovae Tanasevitch, 2004
[Rv3], 1 ♂, 23.06.2005; [Md], 2 ♀♀, 23.06.2005.

Stemonyphantes lineatus (Linnaeus, 1758)
[St1], 1 ♀, 10.09.2005; [Rv3] 1 ♀, 25.05–24.06.2005; [AbFl1], 5 ♀♀, 10.05–26.06.2005, 1 ♀, 27.07–28.08.2005; [Md], 1 ♀, 23.06.2005, 1 ♀, 10.09.2005; [BB], 2 ♂♂, 1 ♀, 25.06–26.07.2005.

Tenuiphantes flavipes (Blackwall, 1854)
[Md], 1 ♀, 23.06.2005; [PF1], 2 ♂♂, 5 ♀♀, 13.08–30.09.2004; [PF2], 2 ♂♂, 10.09.2005; [OGr], 1 ♀, 14.07.2004, 1 ♀, 23.06.2005; [OF1], 2 ♀♀, 26.06–30.07.2004; [OF2], 3 ♀♀, 10.09.2005; [BF2], 2 ♀♀, 25.08–23.09.2005; [AF1], 1 ♀, 9.10.2005; [BB], 1 ♂, 1 ♀, 13.08–20.09.2004.

Trematocephalus cristatus (Wider, 1834)
[OG], 1 ♂ 25.05–24.06.2005, 1 ♂, 23.06.2005; [OF2], 1 ♂, 2 ♀♀, 24.05.2005, 1 ♀, 23.06.2005; [BF2], 1 ♀, 24.05.2005, 2 ♀♀, 23.06.2005.

**Trichopterna cito* (O. Pickard-Cambridge, 1872)
[St1], 1 ♂, 24.05–20.06.2005, ZMMU; [St4], 1 ♂, 10.05–26.06.2005.

**Uralophantes troitskensis* Esyunin, 1992
[St1], 1 ♂, 14.07.2004, ZMMU.

Walckenaeria antica (Wider, 1834)
[PF2], 1 ♀, 10.09.2005, ZMMU; [OGr], 1 ♀, 25.05–24.06.2005, ZMMU.

Walckenaeria atrotibialis (O. Pickard-Cambridge, 1878)
[AbFl1], 1 ♀, 26.06–27.07.2005; [OGr], 1 ♀, 25.05–24.06.2005, ZMMU.

Walckenaeria furcillata (Menge, 1869)
[PF2], 1 ♂, 23.06.2005.

Fam. LIOCRANIDAE (6)

Agroeca brunnea (Blackwall, 1833)
[OF1], 1 ♀, 30.07–25.08.2005, 1 ♀, 25.08–15.10.2005; [OF2], 2 ♀♀, 25.05–24.06.2005, ZMMU, 1 ♂, 1 ♀, 8.09.2005, ZMMU; [BF2], 1 ♀, 25.05–24.06.2005; [AF1], 1 ♂, 2 ♀♀, 25.05–24.06.2005; [BB], 1 ♀, 13.08–20.09.2004.

Agroeca cuprea Menge, 1873
[St1], 1 ♀, 25.05–24.06.2005, ZMMU; [St2], 2 ♂♂, 13.08–4.09.2004, 3 ♂♂, 28.08–14.10.2005; [St3], 5 ♀♀, 15.07–9.08.2004; [St4], 1 ♀, 10.05–26.06.2005, 1 ♂, 3 ♀♀, 28.08–14.10.2005; [Rv3] 1 ♀, 25.05–24.06.2005; [AbFl1], 1 ♀, 27.07–28.08.2005, 3 ♂♂, 28.08–14.10.2005; [AbFl2], 5 ♀♀, 29.07–29.08.2005; [PF1], 1 ♀, 12.05–29.06.2005; [PF2], 1 ♀, 25.05–24.06.2005; [OF1], 1 ♀, 30.07–25.08.2005; [BB], 1 ♀, 25.06–26.07.2005; [VG], 5 ♂♂, 1 ♀, 29.06–27.07.2005.

Agroeca lusatica (L. Koch, 1875)
[St3], 7 ♂♂, 3 ♀♀, 13.08–9.10.2004; [St4], 1 ♂, 3 ♀♀, 28.08–14.10.2005; [AbFl1], 9 ♂♂, 1 ♀, 10.05–26.06.2005, 1 ♂, 3 ♀♀, 26.06–27.07.2005, 1 ♀, 27.07–28.08.2005; [AbFl2], 4 ♂♂, 8 ♀♀, 23.09–19.10.2004, 3 ♀♀, 10.05–26.06.2005, 2 ♀♀, 29.07–29.08.2005; [AbFl3], 4 ♂♂, 2 ♀♀, 25.05–24.06.2005, 4 ♀♀, 25.05–24.06.2005, ZMMU; [Md], 1 ♀, 25.05–24.06.2005; [PlP], 1 ♀, 25.05–24.06.2005; [AF2], 1 ♂, 13.08–8.10.2004; [BB], 3 ♂♂, 4 ♀♀, 25.06–26.07.2005.

Agroeca maculata (L. Koch, 1873)
[St3], 1 ♀, 9.08.2004; [St4], 1 ♀, 10.05–26.06.2005, [Rv1] 2 ♀♀, 10.05–21.06.2005; [AbFl1], 4 ♀♀, 10.05–26.06.2005, 3 ♀♀, 26.06–27.07.2005, [AbFl2], 3 ♀♀, 29.07–29.08.2005.

Agroeca makarovae Esyunin, 2008
[AbFl3], 1 ♀, 25.05–24.06.2005.

Agroeca proxima (O. Pickard-Cambridge, 1871)
[PF1], 1 ♀, 29.08–15.10.2005.

Fam. LYCOSIDAE (26)

Allohogna singoriensis (Laxmann, 1770)
[Rv2], 1 ♂, 29.08–14.10.2005.

Alopecosa aculeata (Clerck, 1758)
[Rv2], 2 ♂♂, 1 ♀, 27.06–29.07.2005; [AbFl1], 1 ♂, 10.05–26.06.2005; [PF1], 4 ♀♀, 13.08–30.09.2004, 59 ♂♂, 10 ♀♀, 12.05–29.06.2005; 7 ♀♀, 27.07–29.08.2005, 5 ♀♀, 29.08–15.10.2005.

Alopecosa cuneata (Clerck, 1758)
[St1], 8 ♀♀, 10–14.07.2004, 4 ♂♂, 2 ♀♀, 24.05–24.06.2005, 4 ♂♂, 4 ♀♀, 24.05–24.06.2005, ZMMU; [St3], 2 ♀♀, 15.07–9.08.2004, 3 ♀♀, 9.10.2004; [St4], 21 ♂♂, 3 ♀♀, 10.05–26.06.2005, 3 ♀♀, 28.08–14.10.2005; [Rv1], 1 ♀, 27.07–28.08.2005; [AbFl1], 1 ♀, 10.08–23.09.2004, 52 ♂♂, 5 ♀♀, 10.05–26.06.2005, 4 ♀♀, 26.06–27.07.2005, 5 ♀♀, 27.07–28.08.2005; [AbFl2], 1 ♀, 23.09–19.10.2004, 245 ♂♂, 45 ♀♀, 10.05–26.06.2005, 2 ♀♀, 29.07–29.08.2005, 3 ♀♀, 29.08–9.10.2005; [AbFl3], 221 ♂♂, 56 ♀♀, 24.05–24.06.2005; [Md], 9 ♂♂, 2 ♀♀, 25.05–24.06.2005; [PlP], 1 ♀, 24.05–24.06.2005, [PF1], 27 ♂♂, 3 ♀♀, 12.05–29.06.2005; [PF2], 29 ♂♂, 1 ♀, 25.05–24.06.2005; [BB], 120 ♂♂, 3 ♀♀, 25.06–26.07.2005.

Alopecosa cursor (Hahn, 1831)
[St4], 7 ♂♂, 1 ♀, 10.05–26.06.2005; [AbFl3], 4 ♂♂, 24.05–24.06.2005, ZMMU.

Alopecosa farinosa (Herman, 1879)
[St1], 4 ♀♀, 24.05–24.06.2005; [St4], 7 ♂♂, 2 ♀♀, 10.05–26.06.2005; [AbFl1], 52 ♂♂, 5 ♀♀, 10.05–26.06.2005; [AbFl2], 4 ♂♂, 2 ♀♀, 10.05–26.06.2005, ZMMU; [AbFl3], 6 ♂♂, 13 ♀♀, 25.05–24.06.2005; [PF1], 2 ♂♂, 1 ♀, 12.05–29.06.2005.

Alopecosa inquilina (Clerck, 1758)
[PF1], 3 ♂♂, 1 ♀, 13.08–30.09.2004, 1 ♀, 29.08–15.10.2005.

Alopecosa pulverulenta (Clerck, 1758)
[St1], 3 ♀♀, 10–14.07.2004; 1 ♀, 24.05–24.06.2005; [St4], 1 ♂, 10.05–26.06.2005, 1 ♀, 28.08–14.10.2005; [Rv2], 1 ♀, 12.5–26.06.2005; [Rv3] 1 ♀, 25.05–24.06.2005; [AbFl1], 3 ♂♂, 10.05–26.06.2005, 4 ♀♀, 26.06–27.07.2005; [AbFl2], 4 ♂♂, 10.05–26.06.2005; [AbFl3], 4 ♂♂, 4 ♀♀, 25.05–24.06.2005; [Md], 13 ♂♂, 25.05–24.06.2005; [PlP], 1 ♀, 25.05–24.06.2005; [OGr], 5 ♂♂, 25.05–24.06.2005; [BB], 22 ♂, 1 ♀, 25.06–26.07.2005.

Alopecosa schmidti (Hahn, 1835)
[St2], 1 ♂, 28.08–14.10.2005; [Rv1], 1 ♂, 27.07–28.08.2005; [VG], 2 ♂♂, 28.08–14.10.2005.

Alopecosa sulzeri (Pavesi, 1873)
[St1], 11 ♂♂, 2 ♀♀, 24.05–20.06.2005; [St4], 13 ♂♂, 10.05–26.06.2005, 4 ♂♂, 2 ♀♀, 10.05–26.06.2005, ZMMU; [Rv1], 2 ♂♂, 26.06–27.07.2005, 2 ♀♀, 28.08–14.10.2005; [Rv2], 7 ♂♂, 12.5–26.06.2005; 1 ♂, 27.06–29.07.2005; [Rv3] 1 ♂, 25.05–24.06.2005; [AbFl1], 6 ♂♂, 2 ♀♀, 10.05–26.06.2005; [AbFl3], 2 ♂♂, 24.05–20.06.2005; [PlP], 4 ♂♂, 25.05–24.06.2005; [PF1], 1 ♀, 13.08–30.09.2004, 18 ♂♂, 7 ♀♀, 12.05–29.06.2005, 1 ♂, 1 ♀, 27.07–29.08.2005, 1 ♂, 29.08–15.10.2005. [PF2], 29 ♂♂, 5 ♀♀, 25.05–24.06.2005; [OGr], 1 ♂, 14.07.2004, 1 ♀, 24.05.2005, 4 ♂♂, 25.05–24.06.2005; [OF2], 5 ♂♂, 25.05–24.06.2005.

Alopecosa taeniopus (Kulczyński, 1895)
[St2], 2 ♂♂, 2 ♀♀, 13.08–4.09.2004, 4 ♂♂, 1 ♀, 28.08–14.10.2005; [St3] 1 ♂, 9.10.2004; [St4], 1 ♀, 10.05–26.06.2005, 1 ♂, 2 ♀♀, 28.08–14.10.2005; [Rv2], 1 ♀, 29.08–14.10.2005; [AbFl1], 1 ♀, 10.08–23.09.2004, 1 ♂, 10.05–26.06.2005; 2 ♂♂, 28.08–14.10.2005; [AbFl2], 1 ♂, 29.08–9.10.2005; [AbFl3], 1 ♀, 24.05–20.06.2005; [Md], 1 ♀, 25.05–24.06.2005.

Arctosa figurata (Simon, 1876)
[St1], 5 ♂♂, 10–14.07.2004, 43 ♂♂, 24.05–20.06.2005, 4 ♂♂, 4 ♀♀, ZMMU; [St2], 28 ♂♂, 3 ♀♀, 10.05–26.06.2005; [St3], 1 ♂, 15.07–9.08.2004; [St4], 10 ♂♂, 2 ♀♀, 10.05–26.06.2005; [Rv1], 1 ♀, 27.07–28.08.2005; [AbFl2], 3 ♀♀, 10.05–26.06.2005, 1 ♂, 29.07–29.08.2005; [AbFl3], 3 ♀♀, 25.05–24.06.2005; [PlP], 4 ♂♂, 25.05–24.06.2005; [PF2], 1 ♂, 25.05–24.06.2005; [OGr], 2 ♂♂, 25.05–24.06.2005; [OF2], 1 ♀, 25.05–24.06.2005; [VG], 9 ♂♂, 2 ♀♀, 15.05–29.06.2005.

**Arctosa lutetiana* (Simon, 1876)
[BF1], 1 ♀, 25.05–24.06.2005; [AF1], 2 ♂♂, 25.05–24.06.2005.

**Mustelicosa dimidiata* (Thorell, 1875)
[St4], 3 ♂♂, 1 ♀♀, 10.05–26.06.2005; [Rv2], 2 ♂♂, 27.06–29.07.2005, 2 ♀♀, 27.09–28.08.2005; [Rv3], 1 ♀, 25.05–24.06.2005, ZMMU; [AbFl3], 5 ♂♂, 25.05–24.06.2005, 1 ♂, 25.05–24.06.2005, ZMMU.

Pardosa agrestis (Westring, 1861)
[St1], 2 ♂♂, 24.05–24.06.2005; [St4], 1 ♀, 10.05–26.06.2005; [Rv3] 2 ♂♂, 25.05–24.06.2005; [AbFl2], 1 ♂, 10.05–26.06.2005; [AbFl3], 5 ♂♂, 1 ♀, 25.05–24.06.2005; [Md], 5 ♂♂, 25.05–24.06.2005; [PF1], 1 ♂, 12.05–29.06.2005; [PF2], 2 ♀♀, 23.06.2005; [VG], 67 ♂♂, 114 ♀♀, 15.05–29.06.2005, 4 ♂♂, 5 ♀♀, 29.06–27.07.2005, ZMMU.

Pardosa alacris (C.L. Koch, 1833)
[Rv1], 1 ♀, 23.09–19.10.2004, 8 ♀♀, 28.08–14.10.2005; [AbFl1], 2 ♀♀, 10.08–23.09.2004, 72 ♂♂, 1 ♀, 10.05–26.06.2005, 11 ♀♀, 26.06–27.07.2005; 10 ♀♀, 27.07–28.08.2005; 9 ♀♀, 28.08–14.10.2005; [AbFl2], 42 ♂♂, 8 ♀♀, 10.05–26.06.2005; [AbFl3], 25 ♂♂, 25.05–23.06.2005; [Md], 2 ♂♂, 25.05–24.06.2005; [PlP], 3 ♂♂, 25.05–24.06.2005; [PF1], 172 ♂♂, 6 ♀♀, 12.05–29.06.2005, 15 ♂♂, 26 ♀♀, 27.07–29.08.2005, 3 ♀♀, 29.08–15.10.2005; [PF2], 74 ♂♂, 2 ♀♀, 25.05–24.06.2005, 5 ♂♂, 5 ♀♀, 25.05–24.06.2005, ZMMU; [OGr], 1 ♀, 14.07.2004, 125 ♂♂, 10 ♀♀, 25.05–24.06.2005; [OF1], 18 ♀♀, 26.06–30.07.2005, 56 ♀♀, 30.07–25.08.2005; [OF2], 184 ♂♂, 9 ♀♀, 25.05–24.06.2005, 2 ♀♀, 23.06.2005; [BF1], 1 ♂, 24.05.2005, 34 ♂♂, 25.05–24.06.2005; [BF2], 1 ♀, 10–14.07.2004, 10 ♀♀, 25.08–23.09.2005; [AF1], 144 ♂♂, 1 ♀, 25.05–24.06.2005; [AF2], 1 ♀, 13.08–8.10.2004; [BB], 7 ♀♀, 13.08–20.09.2004, 5 ♂♂, 3 ♀♀, 25.06–26.07.2005.

Pardosa bifasciata (C.L. Koch, 1834)
[St1], 2 ♂♂, 4 ♀♀, 10–14.07.2004, 9 ♂♂, 24.05–20.06.2005, 4 ♂♂, 24.05–20.06.2005, ZMMU; [St2], 2 ♀♀, 13.08–4.09.2004; [St4], 1 ♀, 23.09–19.10.2004, 15 ♂♂, 10.05–26.06.2005; [Rv1], 7 ♀♀, 27.07–28.08.2005; [Rv2], 1 ♂, 1 ♀, 27.06–29.07.2005; [AbFl2], 1 ♀, 23.09–19.10.2004; [Md], 6 ♂♂, 25.05–24.06.2005; [PlP], 1 ♂, 25.05–24.06.2005; [VG], 1 ♂, 15.05–29.06.2005.

Pardosa fulvipes (Collett, 1876)
[St4], 3 ♀♀, 28.08–14.10.2005; [Rv2], 1 ♀, 12.5–26.06.2005; [AbFl1], 2 ♂♂, 10.05–26.06.2005; [AbFl2], 1 ♂, 1 ♀, 10.05–26.06.2005; [Md], 10 ♀♀, 10–14.07.2004, 2 ♂♂, 24.05.2005, 64 ♂♂, 3 ♀♀, 25.05–24.06.2005, 4 ♂♂, 4 ♀♀, 25.05–24.06.2005, ZMMU; [AbFl3], 2 ♂♂, 1 ♀, 25.05–24.06.2005; [OGr], 8 ♂♂, 25.05–24.06.2005; [BB], 18 ♀♀, 13.08–20.09.2004, 90 ♂♂, 11 ♀♀, 25.06–26.07.2005; [VG], 13 ♂♂, 10 ♀♀, 15.05–29.06.2005, 1 ♂, 4 ♀♀, 29.06–27.07.2005.

Pardosa lugubris (Walckenaer, 1802)
[Md], 7 ♂♂, 25.05–24.06.2005; [PF1], 6 ♂♂, 25.05–24.06.2005; [OGr], 11 ♂♂, 25.05–24.06.2005.

Pardosa paludicola (Clerck, 1758)
[Md], 4 ♀♀, 24.05.2005–24.06.2005, ZMMU; [BB], 42 ♂♂, 8 ♀♀, 25.06–26.07.2005; [VG], 11 ♂♂, 5 ♀♀, 15.05–29.06.2005.

Pardosa palustris (Linnaeus, 1758)
[AbFl3], 3 ♂♂, 2 ♀♀, 25.05–24.06.2005; [Md], 7 ♂♂, 1 ♀♀, 25.05–24.06.2005, 1 ♂, 3 ♀♀, 25.05–24.06.2005, ZMMU; [VG], 8 ♂♂, 1 ♀, 15.05–29.06.2005, 8 ♀♀, 29.06–27.07.2005.

Pardosa prativaga (L. Koch, 1870)
[BB], 20, ♀♀, 13.08–20.09.2004, 6 ♂♂, 2 ♀♀, 25.06–26.07.2005; [VG], 8 ♂♂, 4 ♀♀, 15.05–29.06.2005.

Pardosa pullata (Clerck, 1758)
[BB], 1 ♀, 11.06–6.07.2004, ZMMU; [VG], 15 ♂♂, 15.05–29.06.2005.

Piratula hygrophila (Thorell, 1872)
[OF2], 1♀, 24.05.2005; [BF1], 1 ♀, 18.08-23.09.2005; [BF2], 3 ♀, 24.05.2005; [AF1], 2 ♀♀, 23.05.2005; [BB], 16 ♀♀, 13.08–20.09.2004, 23 ♂♂, 3 ♀♀, 25.06–26.07.2005.

Trochosa ruricola (DeGeer, 1778)
[St3], 1 ♀, 15.07–9.08.2004; [Rv3], 1 ♂, 25.05–24.06.2005; [AbFl2], 9 ♂♂, 1 ♀, 10.05–26.06.2005, 1 ♀, 29.07–29.08.2005; [Md], 3 ♂♂, 25.05–24.06.2005; [OGr], 2 ♀♀, 24.05.2005; [BB], 3 ♀♀, 25.06–26.07.2005; [VG], 2 ♂♂, 4 ♀♀, 15.05–29.06.2005.

Trochosa terricola Thorell, 1856
[St1], 2 ♀♀, 10–14.07.2004, 3 ♂♂, 2 ♀♀, 24.05—20.06.2005; [St2],3 ♂♂, 13.08–4.09.2004, 1 ♂, 2 ♀♀, 10.05–26.06.2005, 3 ♂♂, 28.08—14.10.2005; [St3], 3 ♂♂, 2 ♀♀, 9.10.2004; [St4], 3 ♂♂, 2 ♀♀, 10.05–26.06.2005, 1 ♂, 28.08–14.10.2005; [Rv1], 1 ♂, 23.09–19.10.2004, 1 ♀, 28.08–14.10.2005; [Rv3] 1 ♂, 25.05–24.06.2005; [AbFl1], 22 ♂♂, 6 ♀♀, 10.05–26.06.2005, 6 ♀♀, 26.06–27.07.2005, 3 ♂♂, 6 ♀♀, 28.08–14.10.2005; [AbFl2], 2 ♂♂, 2 ♀♀, 10.05–26.06.2005, 3 ♂♂, 3 ♀♀, 29.08–9.10.2005; [Md], 9 ♂♂, 25.05–24.06.2005; [AbFl3], 9 ♂♂, 1 ♀, 25.05–24.06.2005; [PlP], 2 ♂♂, 1 ♀, 25.05–24.06.2005, [PF1], 2 ♀♀, 13.08–30.09.2004, 5 ♂♂, 3 ♀♀, 12.05–29.06.2005, 1 ♂, 1 ♀, 27.07–29.08.2005, 3 ♂♂, 29.08–15.10.2005; [PF2], 5 ♂♂, 3 ♀♀, 25.05–24.06.2005; [OGr], 2 ♀♀, 24.05.2005, 1 ♂ 1 ♀, 25.05–24.06.2005, 1 ♂, 4 ♀♀, 25.05–24.06.2005, ZMMU; [OF1], 2 ♀♀, 30.07–25.08.2005, 1 ♀, 29.08–15.10.2005; [OF2], 26 ♂♂, 25.05–24.06.2005; [BF1], 1 ♀, 18.08–29.09.2005; [BF2], 1 ♂, 24.05.2005, 1 ♂, 25.05–24.06.2005; [AF1], 6 ♂♂, 25.05–24.06.2005; [AF2], 2 ♀♀, 13.08–8.10.2004; [BB], 48 ♂♂, 5 ♀♀, 25.06–26.07.2005; [VG], 3 ♂♂, 5 ♀♀, 15.05–29.06.2005; 1 ♂, 9 ♀♀, 29.06–27.07.2005, 1 ♂, 2 ♀♀, 28.08–14.10.2005.

Xerolycosa miniata (C.L. Koch, 1834)
[St1], 1 ♀, 14.07.2004, 9 ♂♂, 24.05–20.06.2005; [St2], 1 ♂, 10.05–26.06.2005; [St4], 3 ♂♂, 10.05–26.06.2005, 13 ♂♂, 17 ♀♀, 28.08–14.10.2005; [Rv1], 5 ♀♀, 23.09–19.10.2004, 5 ♀♀, 26.06–27.07.2005, 4 ♀♀, 28.08–14.10.2005; [Rv2], 8 ♂♂, 2 ♀♀, 12.05–26.06.2005; 24 ♂♂, 1♀, 27.06–29.07.2005, 9 ♂♂, 18 ♀♀, 27.09–28.08.2005; [AbFl1], 3 ♂♂, 7 ♀♀, 10.08–23.09.2004, 17 ♂♂, 3 ♀♀, 26.06–27.07.2005, 14 ♂♂, 12 ♀♀, 27.07–28.08.2005, 4 ♀♀, 28.08–14.10.2005; [AbFl2], 18 ♂♂, 6 ♀♀, 23.09–19.10.2004; 67 ♂♂, 10.05–26.06.2005; [AbFl3], 172 ♂♂, 8 ♀♀, 25.05–24.06.2005, 5 ♂♂, 5 ♀♀, 25.05–24.06.2005, ZMMU; [Md], 3 ♂♂, 2 ♀♀, 25.05–24.06.2005; [PF1], 1 ♀, 13.08–30.09.2004; [PF2], 2 ♂♂, 1 ♀, 25.05–24.06.2005; [VG], 10 ♂♂, 2 ♀♀, 15.05–29.06.2005, 21 ♂♂, 3 ♀♀, 29.06–27.07.2005, 6 ♀♀, 28.08–14.10.2005.

Fam. MIMETIDAE (1)

Ero furcata (Villers, 1789)
[St4], 1 ♂, 10.05–26.06.2004; [Rv1], 1 ♂, 27.07–28.08.2005; [Rv2], 1 ♀, 27.09–28.08.2005; [OGr], 2 ♀♀, 25.05–24.06.2005; [OF2], 2 ♂♂, 4 ♀♀, 10.09.2005, ZMMU; [AF2], 1 ♀, 13.08–8.10.2004.

Fam. MITURGIDAE (2)

Zora armillata Simon, 1878
[Md], 1 ♀, 10.09.2005; [BF2], 1 ♂, 24.05.2005.

Zora spinimana (Sundevall, 1833)
[Rv1], 2 ♀♀, 27.07–28.08.2005; [AbFl1], 1 ♀, 27.07–28.08.2005.

Fam. OXYOPIDAE (1)

Oxyopes heterophthalmus (Latreille, 1804)
[Md], 2 ♀♀, 14.07.2004; [AbFl3], 1 ♂, 24.05.2005, 2 ♀♀ 23.06.2005, ZMMU; [PlP], 1 ♂, 24.05.2005; 1 ♂, 1 ♀, 23.06.2005, ZMMU.

Fam. PHILODROMIDAE (8)

Philodromus cespitum (Walckenaer, 1802)
[St1], 1 ♀, 13.07.2004, 1 ♂, 23.05.2005; [AbFl3], 1 ♀, 23.05.2005; [FE], 1 ♀, 24.05.2005; [OF2], 1 ♀, 24.05.2005.

Philodromus dispar Walckenaer, 1826
[PF2], 1 ♀, 10.09.2005; [OF2], 1 ♂, 24.05.2005, ZMMU, 2 ♀♀, 23.06.2005; [BF2], 1 ♀, 23.06.2005, ZMMU.

**Philodromus margaritatus* (Clerck, 1758)
[BF2], 1 ♀, 24.05.2005, ZMMU; [DH], 1 ♀, 10.09.2005.

**Philodromus poecilus* (Thorell, 1872)
[BF2], 1 ♀, 24.05.2005, ZMMU.

Thanatus arenarius L. Koch, 1872
[St1], 3 ♂♂, 24.05–20.06.2005; [St2], 4 ♂♂, 10.05–26.06.2005, ZMMU; [St4], 6 ♂♂, 10.05–26.06.2005; [Rv1], 1 ♀, 23.09–19.10.2004, ZMMU; [AbFl3], 7 ♂♂, 24.05–20.06.2005; [PF1], 1 ♂, 12.05–29.06.2005.

Thanatus formicinus (Clerck, 1758)
[St1], 1 ♂, 1 ♀, 24.05–20.06.2005, ZMMU, 1 ♀, 23.06.2005, ZMMU; [St3], 1 ♀, 9.10.2004; [St4], 1 ♂, 10.05–26.06.2005, ZMMU; [AbFl2], 1 ♀, 29.08–9.10.2005, ZMMU; [Md], 1 ♀, 23.06.2005; [BB], 1 ♂, 25.06–26.07.2005.

**Thanatus oblongiusculus* (Lucas, 1846)
[St1], 1 ♀, 13.07.2004, 1 ♂, 23.05.2005, ZMMU.

Tibellus oblongus (Walckenaer, 1802)
[St1], 3 ♀♀, 14.07.2004, 1 ♀, 24.06.2005; [Rv3], 1 ♀, 24.05.2005; [AbFl3], 1 ♂, 1 ♀, 24.05.2005, 1 ♂, 1 ♀, 23.06.2005; [OGr], 2 ♂♂, 2 ♀♀, 24.06.2005, 1 ♀, 10.09.2005; [FE], 6 ♂♂, 3 ♀♀, 24.06.2005.

Fam. PHRUROLITHIDAE (1)

Phrurolithus festivus (C.L. Koch, 1835)
[St1], 1 ♀, 23.06.2005; [St3], 1 ♀, 15.07–9.08.2004; [St4], 1 ♂, 10.05–26.06.2005; [Rv2], 2 ♀♀, 29.07–28.08.2005; [AbFl1], 1 ♂, 2 ♀♀, 26.06–27.07.2005, 2 ♀♀, 27.07–28.08.2005; [AbFl2], 1 ♀, 29.07–29.08.2005; [Md], 1 ♀, 25.05–24.06.2005; [PF1], 1 ♀, 13.08–30.09.2004; [OGr], 1 ♀, 13.07.2004; [OF2], 1 ♂, 25.05–20.06.2005; [BF2], 1 ♀, 23.06.2005; [BB], 1 ♂, 25.06–26.07.2005.

Fam. PISAURIDAE (2)

Dolomedes fimbriatus (Clerck, 1758)
[BB], 1 ♀, 25.06–26.07.2005.

Pisaura novicia (L. Koch, 1878)
[Md], 1 ♂, 24.05.2005, ZMMU; [AbFl3], 1 ♀, 14.07.2004.

Fam. SALTICIDAE (19)

Aelurillus v-insignitus (Clerck, 1758)
[Rv2], 2 ♀♀, 12.5–26.06.2005, ZMMU.

**Asianellus festivus* (C.L. Koch, 1834)
[St1], 1 ♂, 25.05–24.06.2005; [St2], 2 ♂♂, 13.08–4.09.2004; [St4], 1 ♂, 10.05–26.06.2005; [Rv1], 1 ♂, 10.05–24.06.2005, ZMMU, 1 ♀, 27.07–28.08.2005; [Rv2], 1 ♂, 1 ♀, 12.05–26.06.2005, 1 ♂, 26.06–29.07.2005; [AbFl3], 1 ♂, 24.05–24.06.2005; [PlP], 1 ♂, 25.05–24.06.2005.

Attulus distinguendus (Simon, 1868)
[Rv2], 1 ♀, 26.06–29.07.2005.

Attulus saltator (O. Pickard-Cambridge, 1868)
[St4], 1 ♀, 10.05–26.06.2005, ZMMU.

Ballus chalybeius (Walckenaer, 1802)
[Md], 1 ♂, 25.05–24.06.2005.

Euophrys frontalis (Walckenaer, 1802)
[St1], 24.06–29.07.2005.

Evarcha arcuata (Clerck, 1758)
[St1], 1 ♂, 24.05.2005; [Rv3] 1 ♂, 25.05–24.06.2005; [AbFl3], 1 ♀, 3 ♀♀, 24.05.2005; [FE], 2 ♀♀, 24.05.2005, 1 ♂, 1 ♀, 24.06.2005.

Evarcha falcata (Clerck, 1758)
[AbFl1], 1 ♂, 10.05–26.06.2005; [Md], 1 ♀, 23.06.2005; [AbFl3], 1 ♀, 24.05.2005; 1 ♂, 25.05–24.06.2005; [PlP], 2 ♂♂, 3 ♀♀, 24.05.2005, 1 ♀, 10.09.2005; [OGr], 1 ♂, 14.07.2004, 1 ♀, 24.05.2005, 2 ♀♀, 10.09.2005; [FE], 2 ♂♂, 2 ♀♀, 24.05.2005; [OF2], 2 ♂♂, 24.05.2005; [BF2], 1 ♂, 2 ♀♀, 24.05.2005; 6 ♂♂, 2 ♀♀, 15.07.2004, 1 ♂, 25.05–24.06.2005; 1 ♀, 10.09.2005.

Evarcha laetabunda (C.L. Koch, 1846)
[Rv3] 1 ♂, 25.05–24.06.2005; [AbFl3], 1 ♀, 25.05–24.06.2005; [PF2], 1 ♂, 23.06.2005; [FE], 1 ♂, 24.05.2005.

Evarcha michailovi Logunov, 1992
[St1], 1 ♂, 1 ♀, 13.07.2004, 1 ♂, 25.05–24.06.2005; [St3], 1 ♂, 1 ♀, 9.08.2004; [AbFl2], 1 ♂, 1 ♀, 29.07–29.08.2005; [Md], 2 ♂♂, 2 ♀♀, 23.05.2005, 1 ♂, 25.05–24.06.2005.

Heliophanus auratus C.L. Koch, 1835
[Md], 1 ♀, 24.05.2005.

Heliophanus cupreus (Walckenaer, 1802)
[AbFl3], 1 ♀, 24.05.2005, [PlP], 1 ♀, 23.06.2005; [OGr], 1 ♂, 4 ♀♀, 24.05.2005, ZMMU, 1 ♀, 23.03.2005; [FE], 2 ♀♀, 24.05.2005, 1 ♂, 24.06.2005; [OF2], 2 ♂♂, 2 ♀♀, 24.05.2005, 2 ♂♂, 23.06.2005; [BF2], 1 ♀, 13.07.2004, 1 ♂, 2 ♀♀, 24.05.2005, 1 ♂, 23.06.2005.

Heliophanus dubius C.L. Koch, 1835
[AbFl3], 1 ♀, 24.05.2005, ZMMU, [OGr], 1 ♀, 23.06.2005, ZMMU.

Heliophanus flavipes (Hahn, 1832)
[St1], 2 ♀♀, 14.07.2004; 1 ♂, 24.05.2005; 1 ♀, 23.06.2005; [AbFl3], 1 ♀, 24.06.2005.

**Pellenes nigrociliatus* (Simon 1875
[Rv1], 1 ♂, 24.06.2005, ZMMU.

Phlegra fasciata (Íahn, 1826)
[Rv2], 2 ♂♂, 2 ♀♀, 12.05–26.06.2005.

Sibianor aurocinctus (Ohlert, 1865)
[Md], 1 ♂, 24.05.2005, ZMMU.

**Sitticus terebratus* (Clerck, 1758)
[BF1], 1 ♀, 23.06.2005, ZMMU.

**Synageles hilarulus* (C.L. Koch, 1846)
[AbFl3], 1 ♂, 24.05.2005, ZMMU.

**Talavera aperta* (Miller, 1971
[St2], 1 ♂, 13.08–4.09.2004.

Fam. SPARASSIDAE (1)

Micrommata virescens (Clerck, 1758)
[St1], 1 ♀, 13.07.2004, 1 ♂, 24.05.2005; [Rv2], 1 ♂, 27.06–29.07.2005; [AbFl1], 2 ♂♂, 26.06–27.07.2005; [Md], 1 ♂, 23.05.2005; [AbFl3], 1 ♀, 13.08–30.09.2004; [OGr], 1 ♂, 1 ♀, 24.05.2005, 1 ♂, 24.06.2005; [FE], 1 ♂, 24.06.2005; [OF2], 2 ♂♂, 25.05.2005.

Fam. TETRAGNATHIDAE (6)

Metellina mengei (Blackwall, 1870)
[OF1], 1 ♂, 24.05.2005; [OF2], 1 ♀, 24.05.2005, ZMMU, 1 ♀, 23.06.2005, ZMMU; [BF1], 1 ♂, 1 ♀, 24.05.2005.

Metellina segmentata (Clerck, 1758)
[PF2], 5 ♀♀, 10.09.2005; [FE], 6 ♂♂, 4 ♀♀, 10.09.2005; [OF2], 4 ♂♂, 10 ♀♀, 10.09.2005; [BF2], 2 ♂♂, 4 ♀♀, 10.09.2005, 5 ♂♂, 2 ♀♀, 10.09.2005, ZMMU.

Pachygnatha degeeri Sundevall, 1830
[Md], 11 ♂♂, 5 ♀♀, 25.05–24.06.2005, 3 ♂♂, 3 ♀♀, 25.05–24.06.2005, ZMMU; [OGr], 3 ♂♂, 1 ♀, 25.05–24.06.2005;

Pachygnatha listeri Sundevall, 1830
[OF1], 1 ♀, 29.08–15.10.2005; [OF2], 2 ♀♀, 10.09.2005; [BF2], 1 ♂, 2 ♀♀, 24.05.2005, 1 ♀, 25.05–24.06.2005, 1 ♂, 3 ♀♀ 10.09.2005; [BB], 3 ♂♂, 5 ♀♀, 25.06–26.07.2005.

Tetragnatha montana Simon, 1874
[OG], 1 ♂, 3 ♀♀, 24.06.2005; [BF2], 4 ♂♂, 1 ♀, 24.05.2005, 2 ♀♀, 23.06.2005, ZMMU.

Tetragnatha pinicola L. Koch, 1870
[PF2], 1 ♀, 23.06.2005; [OF2], 1 ♂, 1 ♀, 15.07.2004, 3 ♂♂, 1 ♀, 23.06.2005; [BF2], 1 ♂, 8 ♂♂, 23.06.2005.

Fam. THERIDIIDAE (24)

Asagena meridionalis (Kulczyński, 1894)
[PF2], 1 ♂, 25.05–24.06.2005, ZMMU.

Asagena phalerata (Panzer, 1801)
[St2], 1 ♂, 10.05–20.06.2005; [Rv3] 1 ♂, 25.05–24.06.2005; [AbFl1], 3 ♂♂, 10.05–26.06.2005; [Md], 1 ♂, 25.05–24.06.2005; [AbFl3], 8 ♂♂, 25.05–24.06.2005; [PF2], 1 ♂, 23.06.2005.

Crustulina guttata (Wider, 1834)
[St1], 1 ♂, 1 ♀, 23.06.2005; [PF2], 1 ♂, 1 ♀, 24.05.2005; [OGr], 1 ♀, 14.07.2004, 1 ♀, 24.05.2005, 1 ♂, 1 ♀, 23.06.2005, 1 ♂, 4 ♀♀, 10.09.2005, ZMMU; [OF2], 2 ♂♂, 24.05.2005; [BF2], 1 ♀, 24.05.2005.

Crustulina sticta (O. Pickard-Cambridge, 1861)
[OF2], 1 ♀, 10.09.2005, ZMMU.

**Dipoena melanogaster* (C.L. Koch, 1837)
[OF2], 1 ♂, 24.05.2005; [BF2] 1 ♂, 24.05.2005, ZMMU, 1 ♀, 23.06.2005, ZMMU.

Dipoena tristis (Hahn, 1833)
[AbFl3], 1 ♂, 24.05.2005, ZMMU.

Enoplognatha ovata (Clerck, 1758)
[AbFl3], 12 ♀♀, 14.07.2004, 2 ♂♂, 1 ♀, 24.06.2005; [PlP], 1 ♂ 1 ♀, 24.06.2005; [PF2], 7 ♀♀, 14.07.2004; [OGr], 2 ♂♂, 4 ♀♀, 14.07.2004, 1 ♂, 23.06.2005; [FE], 2 ♂♂, 1 ♀, 24.06.2005; [OF1], 2 ♀♀, 14.07.2004; [OF2], 17 ♀♀, 15.07.2004, 2 ♂♂, 24.05–20.06.2005, 3 ♂♂, 6 ♀♀, 23.06.2005, ZMMU; [BF2], 4 ♂♂, 37 ♀♀, 15.07.2004, 1 ♂, 2 ♀♀, 23.06.2005, 1 ♀, 10.09.2005; [AF1], 2 ♂♂, 29 ♀♀, 14.07.2004, 4 ♂♂, 3 ♀♀, 24.06.2005.

Episinus angulatus (Blackwall, 1836)
[BF2], 1 ♂, 24.05.2005, ZMMU.

Euryopis flavomaculata (C.L. Koch, 1836)
[St2], 1 ♀, 25.05–26.06.2005; [St3], 2 ♂♂, 15.07–9.08.2004, 1 ♂, 10.01.2004; [AbFl2], 2 ♂♂, 29.07–29.08.2005, 1 ♂, 29.08–9.10.2005; [OGr], 2 ♂♂, 25.05–24.06.2005; 1 ♂, 29.08–9.10.2005; [BF1] 1 ♀, 24.05–20.06.2005.

**Euryopis laeta* (Westring, 1861)
[St4], 1 ♂, 10.05–26.06.2004, 1 ♂, 10.05–26.06.2004, ZMMU; [AbFl3], 3 ♂♂, 1 ♀, 25.05–24.06.2005, ZMMU.

**Heterotheridion nigrovariegatum* Simon, 1873
[OGr], 2 ♂♂, 23.06.2005; [AF1], 1 ♂, 25.05–24.06.2005, ZMMU.

Neottiura bimaculata (Linnaeus, 1767)
[PlP], 1 ♂, 25.05–24.06.2005; [FE], 2 ♂♂, 24.05.2005; [OGr], 1 ♀, 14.07.2004, 1 ♀, 24.06.2005; [OF2], 2 ♀♀, 23.06.2005; [BF1], 1 ♂, 24.07.2005; [BF2], 3 ♀♀, 23.06.2005, 2 ♀♀, 14.07.2004,

Parasteatoda lunata (Clerck, 1758)
[OF2], 1 ♀, 23.06.2005; [BF2], 1 ♂, 3 ♀♀, 23.06.2005.

**Parasteatoda simulans* (Thorell, 1875
[BF2], 2 ♀♀, 23.06.2005, ZMMU.

Phylloneta impressa (L. Koch, 1881)
[St1], 1 ♀, 14.07.2004, 3 ♀♀, 10.09.2005; [Md], 1 ♂, 1 ♀, 23.06.2005, 1 ♀, 10.09.2005; [AbFl3], 3 ♀♀, 23.06.2005.

Phylloneta sisyphia (Clerck, 1758)
[St1], 1 ♀, 23.06.2005, [Md], 2 ♀♀, 23.06.2005; [PlP], 1 ♂, 1 ♀, 23.06.2005; [PF2], 1 ♂, 24.05.2005; [OGr], 2 ♂♂, 24.05.2005, 2 ♂♂, 2 ♀♀, 23.06.2005, ZMMU; [OF2], 2 ♀♀, 23.06.2005; [BF2], 1 ♀, 24.05.2005, 1 ♀, 23.06.2005.

Robertus lividus (Blackwall, 1836)
[AbFl1], 1 ♂, 10.05–26.06.2005; [OGr], 1 ♀, 24.05.2005, 1 ♂, 10.09.2005; [BF1], 1 ♂, 25.08–23.09.2005; [AF2], 1 ♂, 13.08–8.10.2004.

Steatoda albomaculata (DeGeer, 1778)
[Rv2], 2 ♂♂, 27.06–29.07.2005.

**Steatoda bipunctata* (Linnaeus, 1758)
[OF2], 1 ♀, 10.09.2005, ZMMU.

Steatoda castanea (Clerck, 1758)
[DH], 2 ♀♀, 23.06.2005.

**Theridion innocuum* Thorell, 1875
[St1], 1 ♀, 23.06.2005, ZMMU; [AbFl3], 1 ♀, 25.05–24.06.2005.

Theridion mystaceum L. Koch, 1870
[OGr], 1 ♀, 14.07.2004; [BF2] 1 ♀, 23.06.2005, ZMMU.

Theridion pictum (Walckenaer, 1802)
[Md], 1 ♀, 23.06.2005, ZMMU.

Theridion varians Hahn, 1833
[Md], 1 ♀, 23.06.2005; [OGr], 2 ♀♀, 24.05.2005, ZMMU; [OF2], 2 ♀♀, 24.05.2005, 1 ♂, 23.06.2005, ZMMU; [BF2], 1 ♂, 2 ♀♀, 14.07.2004; 2 ♀♀, 24.05.2005, 2 ♂♂, 2 ♀♀, 23.06.2005, ZMMU; 6 ♀♀, 10.09.2005.

Fam. THOMISIDAE (19)

Bassaniodes robustus (Hahn, 1832)
[Rv2], 1 ♂, 12.05–26.06.2005, ZMMU; [AbFl2], 1 ♀, 23.09–19.10.2004; [OGr] 1 ♀, 14.07.2004.

Ebrechtella tricuspidata (Fabricius, 1775)
[St1], 1 ♂, 10.09.2005; [Rv3], 1 ♀, 24.05.2005; [Md], 1 ♂, 24.05.2005, 2 ♂♂, 10.09.2005, ZMMU; [OF2], 1 ♂, 24.05.2005; [BF2], 1 ♂, 10.09.2005.

**Heriaeus oblongus* Simon, 1918
[St1], 2 ♀♀, 14.07.2004, ZMMU, 4 ♂♂, 1 ♀, 25.05.2005, ZMMU, 1 ♀, 24.06.2005; [AbFl3], 2 ♀♀, 23.06.2005.

Misumena vatia (Clerck, 1758)
[St1], 2 ♂, 1 ♀, 25.05.2005, 2 ♀♀, 24.06.2005; [Rv3], 2 ♂♂, 1 ♀, 24.05.2005; [Md], 1 ♂, 3 ♀♀, 24.05.2005, [AbFl3], 1 ♂, 1 ♀, 24.05.2005, ZMMU; [OGr], 1 ♀, 24.05.2005; [FE], 2 ♂, 1 ♀, 24.05.2005; [OF2], 1 ♀, 24.05.2005.

Ozyptila atomaria (Panzer, 1801)
[St4], 4 ♂♂, 3 ♀♀, 10.05–26.06.2005, ZMMU.

Ozyptila claveata (Walckenaer, 1937)
[St1], 4 ♂, 1 ♀, 25.05–24.06.2005; [St2], 4 ♂♂, 3 ♀♀, 10.05–26.06.2005, ZMMU; [St3], 7 ♂♂, 3 ♀♀, 15.07–9.08.2004, 8 ♂♂, 4 ♀♀, 13.08–9.10.2004; [St4], 2 ♂♂, 2 ♀♀, 10.05–26.06.2005; [AbFl2], 7 ♂♂, 3 ♀♀, 29.07–29.08.2005, 8 ♂♂, 4 ♀♀, 29.08–9.10.2005; [AbFl3], 2 ♀♀, 25.05–24.06.2005; [OGr], 3 ♂♂, 25.05–24.06.2005.

Ozyptila praticola (C.L. Koch, 1837)
[PF1], 3 ♂♂, 12.05–29.06.2005; [PF2], 5 ♂♂, 25.05–24.06.2005; [OGr], 1 ♂, 25.05–24.06.2005; [OF2], 1 ♂, 2 ♀♀, 25.05–24.06.2005; [BF1], 2 ♀♀, 24.05.2005, ZMMU; [BF2], 3 ♂♂, 25.08–23.09.2005; [AF1], 3 ♂♂, 1 ♀, 25.05–24.06.2005, ZMMU.

**Ozyptila scabricula* (Westring, 1851)
[St1], 1 ♀, 10–13.07.2004, 4 ♂♂, 25.05–24.06.2005; [St2], 4 ♂♂, 3 ♀♀, 13.08–4.09.2004, 5 ♀♀, 10.05–26.06.2005, 2 ♂♂, 4

Table 2. Species richness of spider families from seven nature reserves of the forest-steppe zone of the East European Plain (species number / %).
Таблица 2. Видовое богатство семейств пауков в семи заповедниках лесостепной зоны Восточно-Европейской равнины (число видов / %).

Families	Conservation areas						
	Central Russian Upland				Volga Upland		
	STR	KAZ	YAM	GAL	OST	KUN	SAM
Agelenidae	–	–	2/1.2	1/0.7	1/0.8	–	2/0.6
Anyphaenidae	1/0.6	1/0.7	–	1/0.7	–	1/0.5	–
Araneidae	14/8.1	12/8.5	18/10.8	17/11.7	18/14.1	18/8.4	30/8.6
Atypidae	1/0.6	1/0.7	–	1/0.7	–	–	1/0.3
Cheiracanthiidae	2/1.2	2/1.4	2/1.2	2/1.4	1/0.8	3/1.4	2/0.6
Clubionidae	4/2.4	4/2.8	3/1.8	2/1.4	3/2.3	3/1.4	8/2.4
Dictynidae	3/1.7	4/2.8	3/1.8	3/2.1	2/1.6	3/1.4	8/2.4
Eresidae	–	–	1/0.6	–	–	1/0.5	1/0.3
Gnaphosidae	14/7.7	15/10.6	20/12.0	23/15.9	12/9.4	26/12.0	35/11.3
Hahniidae	–	1/0.7	1/0.6	2/1.4	1/0.8	2/0.9	3/0.9
Linyphiidae	51/29.5	33/23.4	35/21.1	19/13.1	28/21.9	42/19.6	85/25.2
Liocranidae	3/1.7	3/2.1	3/1.8	5/3.4	2/1.6	6/2.8	2/0.6
Lycosidae	22/12.7	18/12.8	16/9.6	16/11.0	13/10,2	26/12.0	37/11.0
Mimetidae	2/1.2	1/0.7	1/0.6	–	1/0.8	1/0.5	4/1,2
Miturgidae	2/1.7	2/1.4	3/1.8	1/0.7	2/1.6	2/0.9	3/0.9
Oxyopidae	–	–	–	–	–	1/0.5	–
Philodromidae	4/2.3	5/3.5	5/3.0	6/4.1	3/2.3	8/3.7	14/4.2
Phrurolithidae	1/0.6	1/0.7	–	1/0.7	1/0.8	1/0.5	2/0.6
Pisauridae	1/0.6	1/0.7	2/1.2	1/0.7	1/0.8	2/0.9	2/0.6
Salticidae	10/5.8	8/5.7	14/8.4	14/9.7	8/6.3	19/8.8	32/9.5
Sparassidae	1/0.6	1/0.7	1/0.6	1/0.7	1/0.8	1/0.5	1/0.3
Tetragnathidae	7/4.0	7/5.0	5/3.0	2/1.3	5/3.9	6/2.8	10/3.0
Theridiidae	14/8.7	11/7.8	17/10.2	12/8.3	16/12,5	23/10.7	23/6.8
Thomisidae	14/8.7	10/7.1	14/8.4	14/9.7	9/7.0	19/8.8	27/8.0
Titanoecidae	–	–	–	1/0.7	–	1/0.5	3/0.9
Uloboridae	–	–	–	–	–	1/0.5	–
Number of species							
total	173	141	166	145	128	216	337
in deciduous forests	131	92	124	120	65	121	159
in dry grasslands	102	91	126	84	76	96	133
percentage of wide-spread species	49.4	58.9	50.6	53.8	60.2	40.7	24.6
percentage of species found in one reserve	5.2	1.4	3.6	4.8	3.1	11.6	35.5

STR — Streletskaya Steppe, KAZ — Kazatskaya Steppe, YAM — Yamskaya Steppe, GAL — Galichya Gora, KUN — Kuncherovskaya Lesostep, OST — Ostrovtsovskaya Steppe, SAM — Samarskaya Luka.

♀♀, 10.05–26.06.2005, ZMMU; [St3], 3 ♂♂, 2 ♀♀, 13.08–9.10.2004; [St4], 2 ♂♂, 23.09–19.10.2004, 1 ♂, 12 ♀♀, 10.05–26.06.2005; [Rv1], 5 ♂♂, 27.07–28.08.2005, [Rv2], 1 ♀, 12.05–26.06.2005; [AbFl1], 1 ♂, 10.08–23.09.2004; 2 ♂♂, 10.05–26.06.2005, 1 ♀, 26.06–27.07.2005, 1 ♂, 28.08–14.10.2005; [AbFl2], 1 ♀, 23.09–19.10.2004, 5 ♂♂, 10.06–26.06.2005, 3 ♂♂, 2 ♀♀, 29.08–9.10.2005; [AbFl3], 1♂, 3 ♀♀, 25.05–24.06.2005; [VG], 1 ♀, 29.06–27.07.2005.

Spiracme striatipes (L. Koch, 1870)
[St1], 2 ♂♂, 1 ♀, 10.09.2005; [St4], 1 ♂, 28.08–14.10.2005; [Rv2], 4 ♀♀, 29.08–14.10.2005; [AbFl1], 2 ♂♂, 1 ♀, 28.08–14.10.2005; [AbFl3], 1 ♀, 25.05–24.06.2005, 1 ♂, 10.09.2005; [VG], 9 ♂♂, 2 ♀♀, 28.08–14.10.2005.

Tmarus piger (Walckenaer, 1802)
[AbFl3], 1 ♂, 1 ♀, 24.05.2005; [FE], 1 ♀, 24.06.2005; [OF2], 2 ♂♂, 1 ♀, [BF2], 1 ♂, 1 ♀, 24.05.2005, 1 ♀, 13.07.2004,

Xysticus audax (Schrank, 1803)
[AbFl3], 1 ♂, 2 ♀♀, 24.05.2005, ZMMU, 1 ♂, 25.05–24.06.2005, ZMMU; [OGr] 1 ♂, 24.05.2005; [FE], 1 ♀, 24.05.2005.

**Xysticus bifasciatus* C.L. Koch, 1837
[St1], 2 ♀♀, 24.05.2005, ZMMU, 1 ♀, 10.09.2005; [AbFl3], 3 ♂♂, 25.05–24.06.2005; [PF1], 1 ♂, 12.05–29.06.2005, ZMMU; [OF2], 1 ♀, 24.05.2005; [BF2], 1 ♂, 24.05.2005, ZMMU.

Xysticus cristatus (Clerck, 1758)
[St1], 1 ♂, 1 ♀, 24.05.2005; [AbFl3], 2 ♂♂, 1 ♀, 24.05.2005; [OF2], 1 ♀, 23.05.2005.

Xysticus kochi Thorell, 1872
[St4], 1 ♂, 10.05–26.06.200, ZMMU 5; [PlP], 1 ♂, 24.05.2005.

**Xysticus lanií* C.L. Koch, 1835
[PF2], 1 ♂, 24.05.2005, ZMMU.

**Xysticus lineatus* (Westring, 1851)
[AbFl3], 1 ♀, 26.06.2005, ZMMU.

Xysticus luctator L. Koch, 1870
[AbFl3], 3 ♂♂, 25.05–24.06.2005; [PlP], 3 ♂♂, 24.05–24.06.2005; [PF1], 10 ♂♂, 2 ♀♀, 25.05–24.06.2005; [OGr] 12 ♂♂, 25.05–24.06.2005; [OF2], 28 ♂♂, 25.05–24.06.2005, 3 ♂♂, 3 ♀♀, 25.05–24.06.2005, ZMMU; [BF2], 1 ♂, 25.05–24.06.2005; [AF1], 4 ♂♂, 25.05–24.06.2005.

Xysticus luctuosus (Blackwall, 1836)
[PF2], 3 ♂♂, 25.05–24.06.2005; [BF2], 1 ♀, 24.05.2005, 4 ♂♂, 25.05–24.06.2005, 1 ♀, 10.09.2005, all in ZMMU.

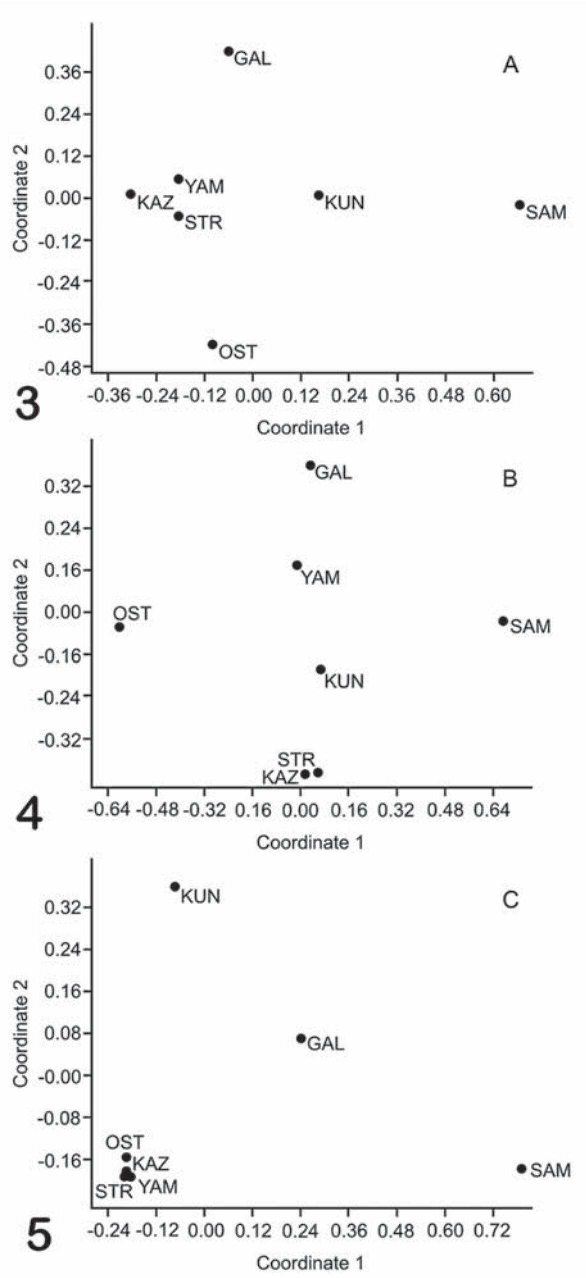
Xysticus ulmi (Hahn, 1831)
[Md], 1 ♂, 3 ♀♀, 24.05.2005, 1 ♀, 23.06.2005; [FE], 1 ♂, 24.05.2005.

Fam. TITANOECIDAE (1)

**Titanoeca schineri* L. Koch, 1872
[PF2], 1 ♂, 25.05–24.06.2005, ZMMU.

*Fam. ULOBORIDAE (1)

**Uloborus walckenaerius* Latreille, 1806
[AbFl3], 1 ♀, 13.07.2004, 1 ♀, 24.06.2005, ZMMU.



Figs 3–5. Comparison of the seven forest-steppe conservation areas based on the spider species composition. Bray-Curtis similarity index, multidimentional scaling (MDS). 3 — total; 4 — deciduous forests; 5 — dry grasslands. For abbreviations see Table 2.

Рис. 3–5. Сравнение семи охраняемых лесостепных территорий, основанная на видовом составе пауков. Индекс сходства Брэя-Кертиса, многомерное шкалирование (MDS). 3 — в целом; 4 — лиственные леса; 5 — сухие грассланды. Сокращения в табл. 2.

Discussion

The araneofauna of the ‘Kuncherovskaya Lesostep’ sector (216 species) is much richer than those of other reserve’s sectors: ‘Borok’ — 140 species [Polchaninova, 2015a], ‘Ostrovtsovskaya Steppe’ — 128 [Polchaninova, 2008], and ‘Verkhovya Sury’ — 97 [Polchaninova, 2015b]. A higher spider diversity of ‘Kuncherovskaya Lesostep’ could be explained by the larger sector’s size, a higher variety of its habitats and more comprehensive investigations. Two families (Uloboridae and Eresidae) and 44 species recorded from this territory are new to the reserve’s spider fauna. To date, a total spider list of the ‘Privolzhskaya Lesostep’ Nature Reserve consists of 273 species in 25 families.

A comparison of the araneofauna richenss of the protected areas conserving forest-steppe landscapes of the East European Plain has shown no grouping related to their geographical position, for instance, a separation of the nature reserves of Central Russian and Volga Uplands. Presumably, the main driving factors of faunal dissimilarity seem to be habitat variability and site specificity. Thus, Samarskaya Luka stands apart at the MDS ordination (Fig. 3) due to the presence of relic stony steppes and open pine forests with steppe-like vegetation in the Zhiguli Mts, as well as the absence of floodplain meadows in other reserves. In terms of spider species composition, the 'Streletskaya', 'Kazatskaya' and 'Yamskaya' steppes form a distinct cluster as they include similar habitats such as meadow steppes, steppe-like meadows at gully bottoms and oak forests. By this parameter, 'Ostrovtsovskaya Steppe' and 'Galichya Gora' are close to them on the Axis 1 but differ significantly along the Axis 2, presumably, due to the differences in the species composition of forest habitats. The 'Kuncherovskaya Lesostep' sector, which also contains birch, aspen and pine forests, bogs and fallow lands, occupies a middle position.

We have also compared spider species richness of the two main habitat types prevailing in all reserves: viz., deciduous forests and dry grasslands. In both cases, the araneofauna of Samarskaya Luka was significantly different from those of other reserves (Figs 4, 5). The forest fauna of 'Ostrovtsovskaya Steppe' was extremely poor because the arboreal vegetation of this sector was at an initial succession stage, being formed instead of an abandoned field. It was the only case of a lower spider species richness in the forest habitat as compared to the steppe one (Table 2). The spider species composition of mesic forests of 'Kuncherovskaya Lesostep' is closer to those of 'Streletskaya Steppe' and 'Kazatskaya Steppe' while the local faunas of the drier forests of 'Yamskata Steppe' and especially of 'Galichya Gora' include a different set of species displayed on the Axis 2.

A comparison of dry grassland spider faunas shows a different pattern. The araneofaunas of four reserves having the meadow steppes on upper interfluves and gully slopes are very close to each other (Fig. 5). The fauna of 'Galichya Gora' situated on the limestone hills is closer to that of Samarskaya Luka while the fauna of 'Kuncherovskaya Lesostep' shows differences in its spider composition because it includes fallow lands and a forb-bunchgrass steppe on sandy soil.

The total spider fauna of the seven studied reserves accounts for 436 species in 26 families. Of these, 87 species are widespread, being recorded from all the reserves or absent just in one of them. On the contrary, 174 species were collected from one reserve only. Samarskaya Luka is the leader in spider species richness (337 species) having the lowest percentage of widespread species and the highest of specific ones (Table 2). By these parameters, the 'Kuncherovskaya Lesostep' sector occupies the second position. The araneofaunas of the 'Kazatskaya' and 'Ostrovtsovskaya' steppes are poorest and least specific (Table 2).

Two families, Oxyopidae and Uloboridae, were recorded from the 'Kuncherovskaya Lesostep' sector only. Both *Uloborus walckenaerius* and *Oxyopes heterophthalmus* are habitat specialists of sandy, chalky or clayey steppes with sparse vegetation and sometimes occur on edges of the dry pine forests. In the 'Kuncherovskaya Lesostep' sector, the former species found suitable environmental conditions on the abandoned field overgrown with young pine trees, the latter occurred also in a belt of planted pines and on the forest edge.

A distinctive feature of the steppe habitats of 'Kuncherovskaya Lesostep' is the presence and high abundance of *Arctosa figurata* and *Pardosa bifasciata*, the absence of *Alopecosa trabalis* and *Zora spinimana,* and the occurrence of *Agroeca maculata, Mustelicosa dimidiata, Thanatus oblongiusculus,* and *Euryopis laeta.* The latter group seems to indicate drier conditions of the study area and, in the case of *M. dimidiata*, plots of the sandy steppe. The xerophilous *Alopecosa cursor* and *Heriaeus oblongus* are common in Samarskaya Luka, while the mesophilous *Xysticus bifasciatus* was also found in 'Streletskaya Steppe'. Remarkable are the numerous records of *Berlandina cinerea*, which is not typical of meadow steppes. In the forest-steppe, this species prefers sparse vegetation of sandy, clayey or calcareous soils. Besides 'Kuncherovskaya Lesostep', this species was also found in Samarskaya Luka and at one plot in 'Galichya Gora'.

The forest spider fauna is distinguished by the high abundance of *Gnaphosa bicolor* which is absent from other studied reserves. It was particularly numerous in the oak grove. *Haplodrassus soerensen, Gnaphosa montana* and *Phylloneta sisyphia* were also found in Samarskaya Luka, but the latter occurred in steppe habitats. Interestingly, *Haplodrassus umbratilis* was a common species in the steppes of Central Russian Upland, whereas in 'Kuncherovskaya Lesostep' it was recorded from forest habitats only. In total, a list of forest spider species of 'Kuncherovskaya Lesostep' is richer but less specific than that of dry grasslands. A more detailed habitat subdivision shows that the spider richness of both steppe and oak forest are highest: steppes – 80 species, oak forests — 79 species, abandoned field with dense young trees — 74 species, oak grove — 71 species, birch, pine forests and meadows — 62 species each, sandy ravines — 61 species, abandoned fields with single trees — 51 species, strip of planted pines — 45 species, a brook bank — 35 species, and aspen forest — 33 species.

We have found no species that could have limits of their geographical rages running via the 'Kuncherovaskaya Lesostep' sector or its vicinity. Yet, we have recorded a bulk of rare species that are patchily distributed across the East European Plain: viz., *Russocampus polchaninovae*, *Agroeca makarovae*, *Asagena meridionalis*, *Uralophantes troitskensis*, *Crustulina stic-*

ta, *Dipoena tristis* [Mikhailov, 2013; Ponomarev, 2017; Polchaninova, Prokopenko, 2019]. The observed spider species composition and their habitat distribution are evidence of a value of the studied area in the conservation of typical habitats of the Volga Upland.

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